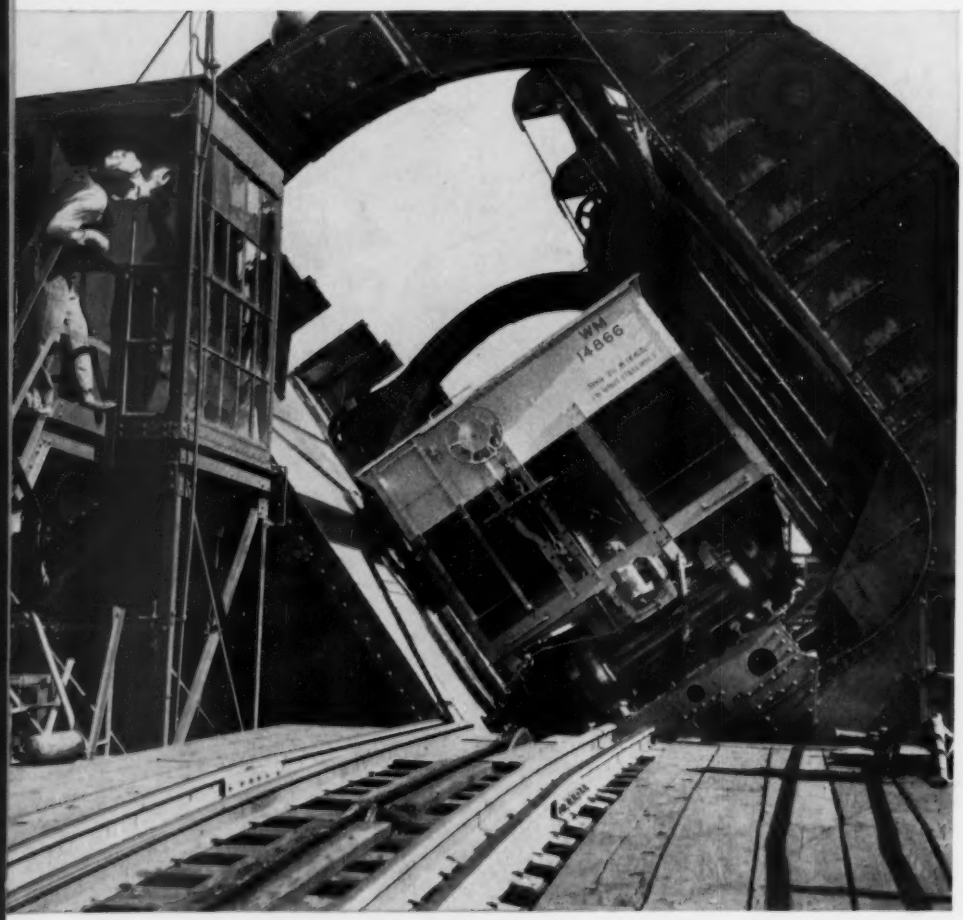
SEPTEMBER 6, 1954 Learning to Live with Socialism . . . p. 41

RAILWAY AGE

One of Five Simmons-Boardman Railway Publications

Bearings scored by car dumping?

Not when they're TIMKEN® tapered roller bearings

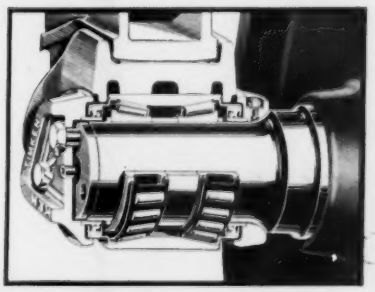


WHEN a freight car is operated in a car dumper, the load per journal is momentarily doubled. That's because the load is carried on four journals instead of eight. Under these conditions, if there is any lateral movement within the roller bearing as the car is tilted, there is a good chance that the bearing will be scored, thereby seriously reducing bearing life.

That is, unless the cars have axles mounted on Timken® tapered roller bearings. Because they're tapered, Timken bearings take not only the up-and-down, or radial load, but the sideways, or thrust loads as well. Lateral movement within the bearing is impossible. There's no chance of scoring.

Furthermore, Timken tapered roller bearing journal boxes are equipped with rubbing seals. Only with this type of seal can there be assurance that there will be no leakage of lubricant when the car operates in a car dumper.

Get what you pay for when you switch to roller bearings to end the hot box problem and cut operating and maintenance costs to a minimum. Get Timken tapered roller bearings. The Timken Roller Bearing Company, Canton 6, Ohio. Canadian plant: St. Thomas, Ontario. Cable address: "TIMROSCO".



TIMKEN TAPERED ROLLER BEARINGS

TRADE-MARK REG. U. S. PAT. OFF.

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Prospects for Cheaper Diesel Fuel

How CTC Speeds B&O Trains

Benchmarks and Yardsticks

REA Offers Bomb-Proof Storage

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The Inside Story...

shows why the New Century is so easy to throw

If you've ever thrown a switch with a New Century Model 51, you've probably decided that this is the easiest-working switch stand you've ever handled.

What makes it so easy? Some complicated design, involving dozens of working parts that can get out of order? Not at all! Model 51, on the contrary, has a bare minimum of working parts, and is famous for its operating economy.

To get at the answer, let's remove the top and look inside. The key to easy throwing is the gap (1) between the adjustment shim bolthead (2) and the spindle lug (3). This gap provides "play," so that when the operator lifts the lever through its first 30 deg of travel, he is actually lifting the weight of the lever only. By the time the slack is taken up, and the switch points begin to move, he has built up enough momentum for smooth and easy completion of the movement. No climactic heave is needed.

Ease of operation is a prime feature of the New Century, but by no means the whole story. A Bethlehem engineer will be glad to discuss the other advantages. He's available through the nearest Bethlehem sales office.

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Speed freight movement with UNION Inductive Train Communication

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A conductor just picks up a hand set, presses its button, and talks . . . to tell the engineman he can increase speed . . . to warn a passing train of a hot box or other hazard . . . to call for assistance if the train has mechanical trouble. Instant communication with every train and station for many miles over the entire right-of-way shortens and often prevents delays. It speeds train movements.

UNION I.T.C. can be used to expedite operations in classification yards. It provides *dependable* voice communciation that is designed exclusively for railroads and has been thoroughly proved in years of railroad service.

NEW MOVIE AVAILABLE entitled, *"AT THIS MOMENT"*—showing a vivid story of modern railroad progress. Length 26 minutes, on 16 mm. color sound film. For use of film write: United World Films, Inc., 1445 Park Ave., New York or Association Films, Inc., 347 Madison Ave., New York.

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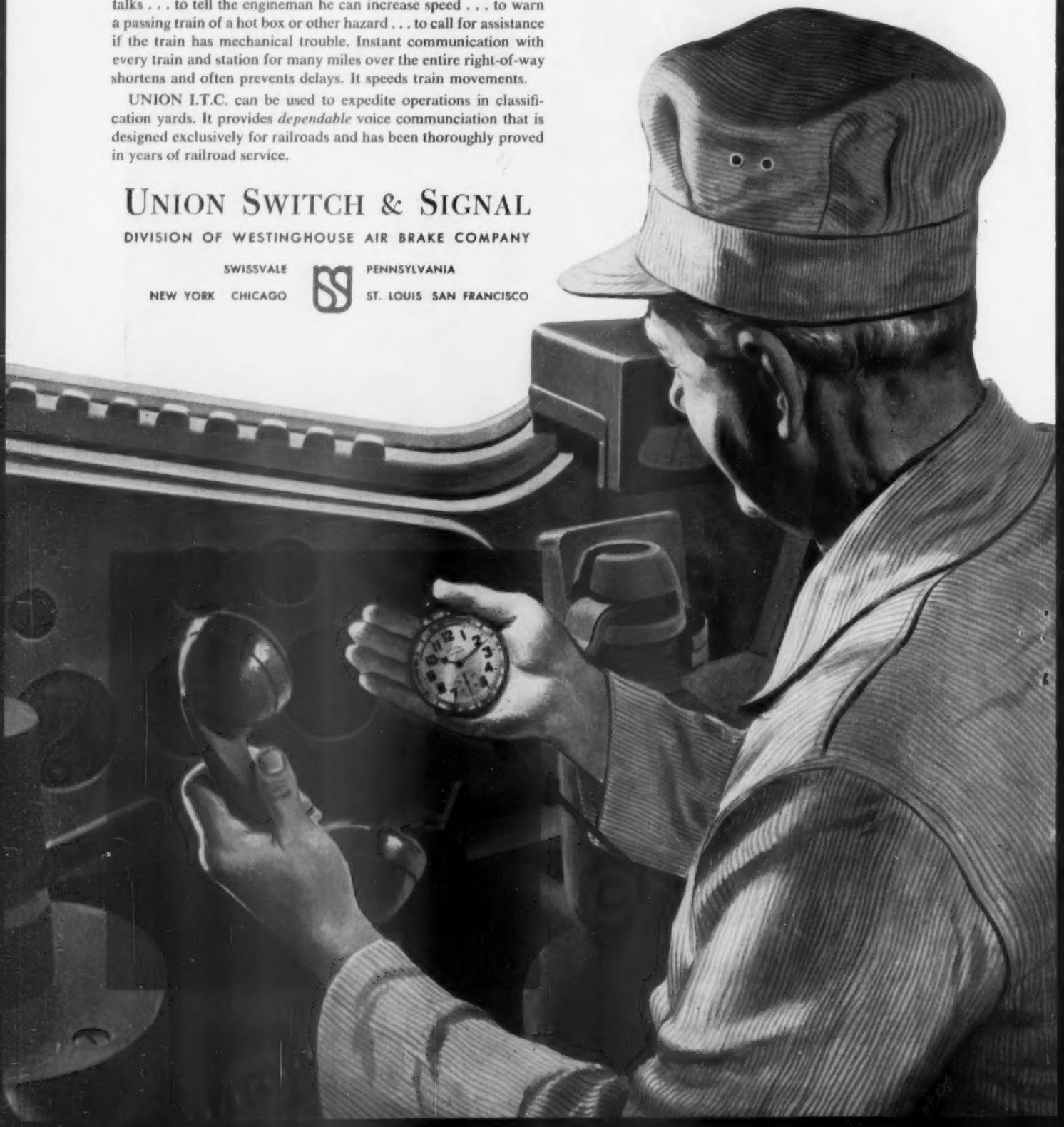

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Published weekly by the Simmons-Boardman Publishing Corporation at Orange, Conn., and entered as second class matter at Orange, Conn., under the Act of March 3, 1879. Name registered in U. S. Patent Office and Trade Mark Office in Canada. Simmons-Boardman Publishing Corporation: James G. Lyne, president. Samuel O. Dunn, chairman emeritus. J. S. Crane, vice-president and secretary. Harry H. Melville, C. W. Merriken, John R. Thompson, William H. Schmidt, Jr., J. S. Vreeland, Fred W. Smith, Robert G. Lewis, vice-presidents. Arthur J. McGinnis, executive vice-president and treasurer. Ralph E. Westerman, assistant treasurer.

September 6, 1954 **Vol. 137, No. 10**

Week at a Glance

The sky's the limit, apparently, as the BLE—angry because it got no more than any other organization in recent wage settlements—considers a hundred new demands against the nation's railroads. **9**

"Ill-timed" would seem to be the gentlest possible comment on any new cost-increasing proposals from engineers, or anyone else, with earnings for July and seven months both running some 40% below last year's figures. **10**

FORUM: Railroads must learn to live with socialism. What they need, in order to survive as private enterprise, is competitive equality—if the public will not end subsidies to rival transportation agencies, then what is wrong with letting public bodies share in the cost of some profitless but essential railroad services—such as handling commuters? **41**

Old stations on the C&IM are progressively being replaced with modern, compact structures designed to achieve economies, better community relations and improve working conditions. **42**

Bomb-proof storage for documents, records and valuables is being offered experimentally by the Railway Express Agency in "the safest place in the world"—the Iron Mountain Atomic Storage Vaults near Hudson, N. Y. **45**

New installation of CTC on the B&O between Dayton, Ohio, and Lima has speeded up heavy coal and ore runs, as well as regularly scheduled merchandise freights. **46**

What are the prospects for cheaper diesel fuel? Future prices will depend on a variety of factors, including not only consumer demand for fuel oil, but also demand for other petroleum products—all of which are distilled from the same basic crude oil. **48**

Current Statistics

Operating revenues, seven months	
1954	$ 5,389,093,368
1953	6,253,221,966
Operating expenses, seven months	
1954	$ 4,316,285,150
1953	4,724,355,127
Taxes, seven months	
1954	$ 509,494,449
1953	749,901,499
Net railway operating income, seven months	
1954	$ 416,325,817
1953	643,223,357
Net income, estimated, seven months	
1954	$ 272,000,000
1953	490,000,000
Average price railroad stocks	
August 31, 1954	67.10
September 1, 1953	59.12
Carloadings, revenue freight	
Thirty-four weeks, 1954	21,643,096
Thirty-four weeks, 1953	25,094,743
Average daily freight car surplus	
Week ended Aug. 28, 1954	78,408
Week ended Aug. 29, 1953	14,397
Average daily freight car shortage	
Week ended Aug. 28, 1954	628
Week ended Aug. 29, 1953	3,406
Freight cars delivered	
July 1954	1,801
July 1953	6,370
Freight cars on order	
August 1, 1954	12,889
August 1, 1953	47,423

RAILWAY AGE IS A MEMBER OF ASSOCIATED BUSINESS PUBLICATIONS (A.B.P.) AND AUDIT BUREAU OF CIRCULATION (A. B. C.) AND IS INDEXED BY THE INDUSTRIAL ARTS INDEX, THE ENGINEERING INDEX SERVICE AND THE PUBLIC AFFAIRS INFORMATION SERVICE. RAILWAY AGE INCORPORATES THE RAILWAY REVIEW, THE RAILROAD GAZETTE, AND THE RAILWAY AGE GAZETTE.

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Week at a Glance CONTINUED

BRIEFS

Public transportation gets a boost from the Urban Land Institute in Washington, which is sponsoring a contest to get fresh ideas on how to lick traffic congestion by better use of commuter trains, buses and street cars.

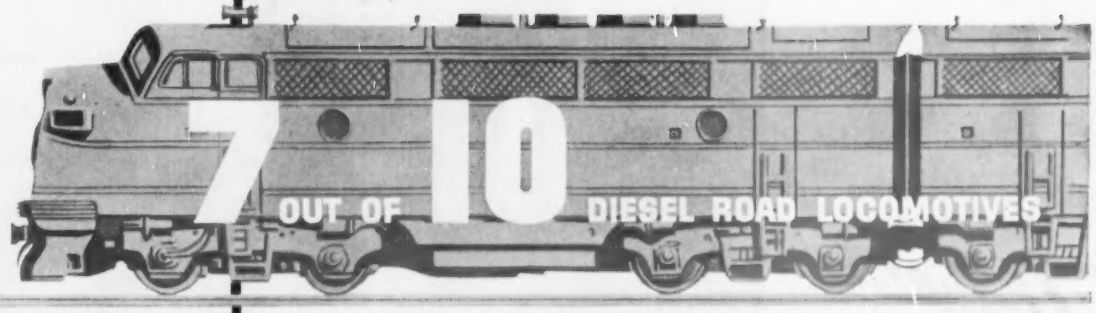
President Eisenhower has approved railroad labor's program for liberalizing the Railroad Retirement and Railroad Unemployment Insurance Acts. Last week, the President signed the liberalizer (House bill 7840), which got through Congress in the final days of the recent session.

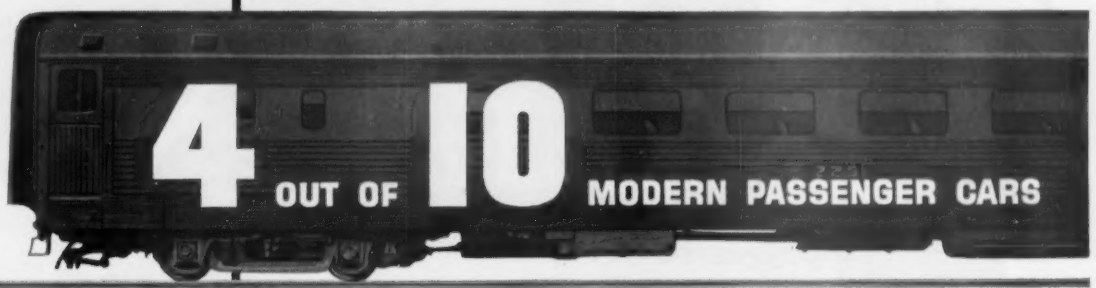
Telescopic eyes for the big YM are receiving another test. The Southern Pacific is experimenting, in the yardmaster's tower at Taylor yard in Los Angeles, with two television receivers which pipe in (by wire transmission) views of activity at the north and south throats of the trackage. RCA is working on the installation.

October has again been designated as "Careful Car Handling Month," when railroads will be requested "to intensify their programs for prevention of rough handling," and "a special effort will be made to carry the message of careful car handling to all officers and employees."

Operation of Speedway yard, Ogden, Utah, began September 1. This new $4-million facility will enable the SP and the UP to move freight trains through the Ogden gateway with greater dispatch. As part of the project, Pacific Fruit Express has completely mechanized its icing facilities; besides increasing icing capacity by 220 cars it now can ice full length unbroken trains.

Not satisfied with carrying 71 out of every 100 passengers, moving on trips of over 1,000 miles, the air lines, Aviation Week says approvingly, "realize the industry must sacrifice high profit ratios in the coming months of a difficult period in order to build America





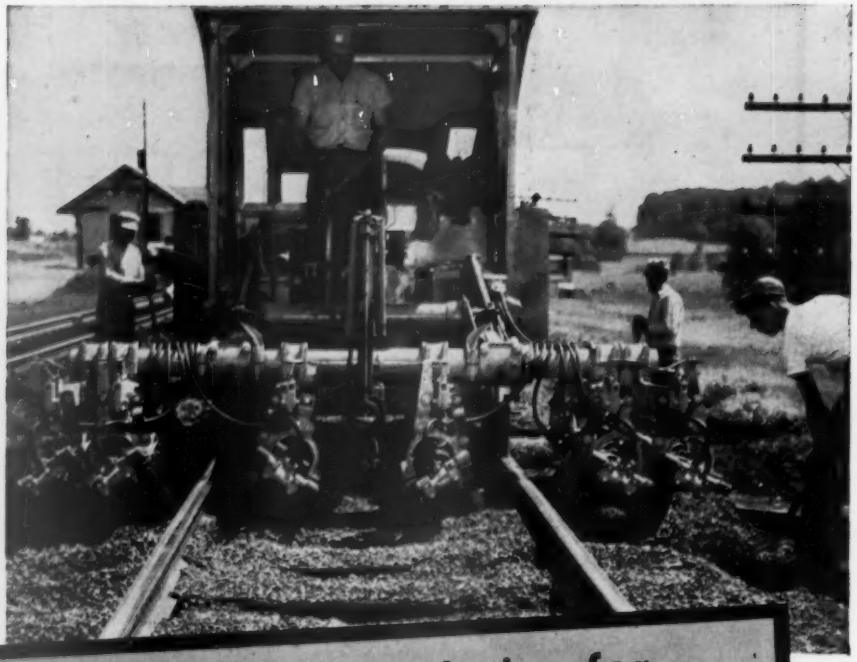
ARE NOW HYATT-EQUIPPED!

Yes, they're mighty impressive figures—but the reason behind this success story is even more impressive. HYATT is America's *largest*, *oldest*, and *most experienced* builder of railroad roller bearings. We produced the first set ever used 60 years ago. And now we have developed a new design that will *substantially reduce the cost* of applying roller bearings to freight cars—a significant contribution to rail progress that adds even greater stature to *America's FIRST name in railroad roller bearings!* Write today for full details. Hyatt Bearings Division, General Motors Corporation, Harrison, New Jersey.

HYATT Roller Bearing Journal Boxes

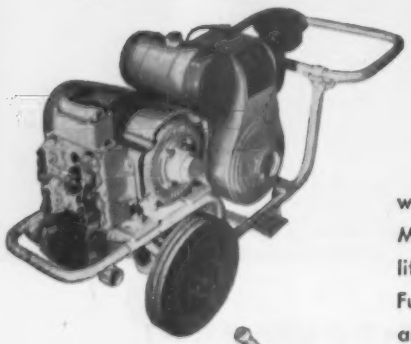
STRAIGHT ROLLER BARREL ROLLER TAPER ROLLER

Actual Experience Indicates:



The Soundest Recommendation for Securing FINEST TRACK at LOWEST COST

is JACKSON TAMPING EQUIPMENT!



MODEL M-22
Power Plant serves 2 to 4 manually guided tampers. Thoroughly reliable. Easily portable. May be used for lighting and operating other power tools.

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THE EXPERIENCE gained by upwards of 60 leading railway systems and contractors LEAVES NO ROOM FOR DOUBT — the Jackson Multiple Tamper is unrivaled for uniform and speedy tamping of track in all lifts from the highest to those no lower than the average size of ballast used. Furthermore, initial cost and machine maintenance costs are far less than for any other on-track tamper. Any thorough investigation will indicate the wisdom of including it in your recommendations for '55.

JACKSON manually guided Tie Tampers and Power Plants — IDEAL for low lift and smoothing work with small gangs using 2 to 4 tampers — EXCELLENT for major ballasting or out-of-face operations since 2 or more of these 4-tamper outfits may be grouped as required. VERSATILE — quickly interchangeable blades adapt tampers to handle every job at peak efficiency. For top quality track and maximum economy, include these outfits in your '55 recommendations.

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ELECTRIC TAMPER & EQUIPMENT CO.
LUDINGTON MICHIGAN

CANADIAN REPRESENTATIVES: MUMFORD, MEDLAND, LTD., WINNIPEG, MANITOBA

Week at a Glance CONTINUED

into an air-traveling public whose millions will offer a market of broad and stable base, and eliminate for all time as serious competition the long-haul bus, train and ship."

Trucks get a break on toll turnpikes, too! Here are some typical comparative tolls:

	Miles	Passenger Car (4,000 lb.)	Tractor-Semi-Trailer (40,000 lb.)
Maine	44.3	$ .75	$ 1.75
New Jersey	118	1.75	4.50
Denver-Boulder (Colo.)	17.3	.25	.65
Pennsylvania	327	3.25	12.25

An unusual television program has been sponsored by the Boston & Maine at Manchester, N. H. Special features were use of railroad officers as commentators; showing of movies "to take the viewer into the heart of railroad operation"; and the fact that the movies were taken right on B&M property by George H. Hill, until recently B&M publicity manager, and at one time a professional photographer.

The Southern Pacific is understood to have plans for building two more dome cars similar to the two-level model recently completed at its Sacramento shops.

The Civil Aeronautics Board has denied the request of four major airlines that they be permitted to haul delegates to the American Society of Travel Agents' annual convention at San Francisco at half price.

An aluminum dome car body was the first subject for the new one-million pound car compression test machine now installed in the AAR's research center at Chicago. The car, being built for the Union Pacific, was tested in the presence of officers of the road and of the builder—ACF Industries, Inc. The machine, one of two in the U. S., is now available to both carbuilders and railroads for compression testing of freight and passenger equipment.

Railroad employees received a special salute when the Ballantine Brewery dedicated recent radio and television broadcasts of a New York Yankee baseball game to the people responsible for operating and maintaining the nation's railroads. It was explained on the broadcasts how efforts of railroad employees provide this country with the world's finest transportation system.

East African railways have switched to welded rail for a new reason—determent of saboteurs. The decision to weld rail was reached after the derailment of a main line train resulted from removal of the outside rail of a curve by Mau Mau gangs, according to the Railway Gazette.

A bright spot in the passenger picture is the Seaboard's report that its summer vacation travel between Eastern points and Florida "showed a tremendous increase this past July over the same month last year." Sales of 30-day low-fare round-trip coach tickets were up over 100% in New York, and 35% in Florida, while number of all-expense "package tour" passengers was triple last year's, says James R. Getty, general passenger traffic manager.

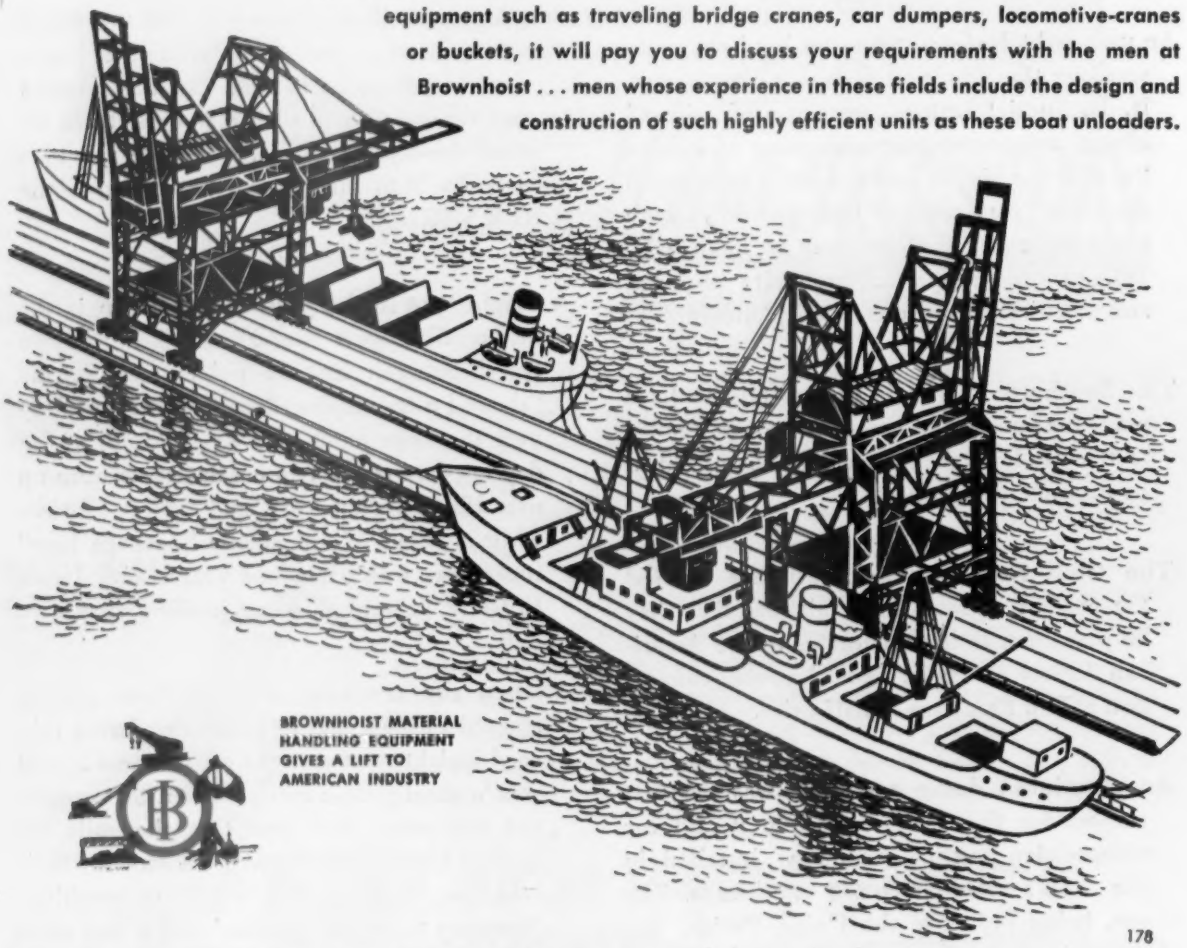
"When the trucking industry was getting started in the 1920s its leaders undercut railroad freight rates so as to get business . . . It was 'a great public service' when they undercut rail rates. But now that the rails are cutting truck rates to win back some of their one-time business, it's 'unfair competition,' 'contrary to public interest,' and a few other things."—*Railroad Cooperative League of Michigan.*

BROWNHOIST

ORE UNLOADERS handle up to 3600 tons per hour at the huge new pier of a large eastern railroad

Two Industrial Brownhoist Ore Unloaders, each with a free-digging capacity of 1800 tons per hour, provide this new pier for ocean-going ore vessels with the most modern and efficient unloading facilities in the United States. Towering over the pier like enormous drawbridges, the Brownhoist machines can travel the full length of the pier and lower apron extensions from either side to provide a reach 72 feet from the dock. Then huge buckets, capable of taking 25 tons of ore in a single bite, roll out on the aprons, return to drop their load into 100-ton receiving hoppers and roll back again for another bite. Elapsed time from bite to bite: just 45 seconds.

Whether your bulk materials handling operations call for ore unloaders or for other equipment such as traveling bridge cranes, car dumpers, locomotive-cranes or buckets, it will pay you to discuss your requirements with the men at Brownhoist . . . men whose experience in these fields include the design and construction of such highly efficient units as these boat unloaders.



BROWNHOIST MATERIAL HANDLING EQUIPMENT GIVES A LIFT TO AMERICAN INDUSTRY

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INDUSTRIAL BROWNHOIST CORPORATION • BAY CITY, MICHIGAN • DISTRICT OFFICES: New York, Philadelphia, Cleveland, Chicago, Denver, San Francisco, Montreal • AGENCIES: Detroit, Birmingham, Houston

Engineers Plan New Demands

Have approximately 100 changes in working rules under consideration — General chairmen vote to "go it alone"

A list of approximately 100 proposed changes in railroad working rules and fringe benefits, as they apply to locomotive engineers, is being considered by the General Chairmen's Association of the Brotherhood of Locomotive Engineers, which met at Cleveland August 25.

Will "Go It Alone"—Prior to consideration of detailed demands to be made on the railroads, the association voted to: (1) Reject bargaining on a national basis, leaving each group within the brotherhood free to process demands on its own carrier; (2) refuse to join with other employee organizations in talks with carriers; and (3) depart from a national wage movement in favor of a series of rules demands.

This vote apparently reflected the advice of Thomas J. Harkins, assistant grand chief engineer, to "play it alone, play it stronger, and . . . play it rougher."

Seven Changes Recommended—Rules changes particularly recommended by a special "study subcommittee" of the association include: (1) Night differentials and extra pay for work done on Sundays and holidays; (2) "arbitraries" (extra flat cash allowances) for engineers using radio telephones and other new communications equipment; (3) extra pay for mileage time lost en route in picking up and setting out diesel units; (4) individual carrier pensions to supplement those paid under the Railroad Retirement Act; (5) payment of expenses away from home; (6) storm windows and other "safety" devices in locomotive cabs; and (7) time and one-half for overtime performed by engineers not assigned to regular runs.

Other demands under consideration include payment of interest on unpaid claims and retroactive wages; minimum pass privileges on all railroads; minimum arbitraries of two dollars; restrictions on time a carrier can hold engineers without pay at beginning or end of runs; monthly guaranteed wage for extra-board engineers; hourly pay up to 24 hours for engineers held away from home; limit on number of diesel units to be operated by one crew; 12-hour notice of cancellation of regular assignments; elimination of engineer seniority rights of railroad officers; employment of engineers on left side of diesel cabs; and payment for over-miles to be made at 1½ miles for each mile in excess of 100, or in hours, whichever is greater.

The General Chairmen's Association, the BLE's ruling body on nation-wide questions of wages and working conditions, was convened "to consider national policy in the wake of the arbitration award" in which a six-man board rejected the union's demand for a 22½% wage increase, and recommended instead that it accept a 5-cents-per-hour wage increase and other features of the so-called "trainman package" (*Railway Age*, August 23, page 11).

New demands being made by other operating brotherhoods were summarized in *Railway Age*, June 14, page 13, and July 12, page 15.

THIS NEW TERMINAL, served by rail, river and highway, is now in service at Pittsburgh. Located on property formerly owned by the Pressed Steel Car Company, the 103-acre terminal is 3½ miles below the "Golden Triangle," in the heart of Pittsburgh. Operated by McKees Rocks Industrial Enterprises, it includes a half-mile of river frontage; 1,800,000 sq ft of covered storage space; 40,000 sq ft of office space; 30 acres of open storage area; 13½ miles of railroad track; ample truck parking space; and barge loading equipment having a maximum lift of 60 tons. Rail facilities are operated by the Pittsburgh, Allegheny & McKees Rocks (a subsidiary of McKees Rocks Industrial Enterprises), which connects with the Pittsburgh & Lake Erie and the Pittsburgh, Chartiers & Youghiogheny.

BRT Chief Sees No Inter-Union Piggyback Rivalry

"Piggyback" transportation of highway trailers on railway freight cars involves no danger of a jurisdictional dispute between the Teamsters Union and the Brotherhood of Railroad Trainmen, in the opinion of W. P. Kennedy, president of the latter. Any such idea is "utter nonsense," he said on August 30 in his opening keynote address to the BRT's 30th international convention, which is now in session at Miami Beach, Fla.

"We," Mr. Kennedy told the convention delegates, "do not want teamsters' work, which is driving the trucks and bringing the freight to the terminals, and the teamsters do not want our work of running trains over the rails. . . . There is no conflict at all."

Canadian "Non-Op" Strike Averted by Arbitration

The threatened Dominion-wide strike of Canada's 145,000 non-operating railway employees has been averted by agreement by both companies and unions to accept government arbitration of the unions' demands for "fringe benefits" estimated to cost the railroads $60 million a year. The proceedings will be conducted by a single arbitrator, appointed by the government, whose findings will be accepted as final by both sides.

Both sides were reported, however, to have agreed that penalty pay for Sunday work was impracticable and

should be eliminated from the negotiations, while the railways have offered some concessions in the field of sick leave with pay. The biggest remaining obstacles appear to be the number of paid holidays, and vacations.

Union consent to arbitration was given reluctantly. Frank Hall, chief union negotiator, recommended its acceptance, but simultaneously submitted his resignation as chairman of the unions' negotiating committee, on the ground that "railway labor was being deprived of a right to strike which it had hitherto shared with Canadian labor generally." Mr. Hall's viewpoint was apparently agreed to by Canadian Prime Minister Louis St. Laurent, when he said: "I think the rail unions have come to the conclusion that for all practical purposes the strike weapon just cannot be used."

Figures of the Week

Seven Months' Net Off $218 Million

It was $272 million compared with $490 million last year—Net railway operating income, at $416 million, was off $227 million from $643 million

Class I railroads in the first seven months of this year had estimated net income, after interest and rentals, of $272,000,000, according to the Bureau of Railway Economics of the Association of American Railroads. This compared with a net income of $490,000,000 in the first seven months of 1953.

Net railway operating income, before interest and rentals, was $416,325,817 for this year's first seven months. The comparable figure for the first seven months of last year was $643,223,357.

For July, the estimated results showed net income of $49,000,000, down $23,000,000 from the $72,000,000 reported for July 1953. Net railway operating income for the 1954 month was $71,102,960, compared with $94,421,704 for July 1953.

In the 12 months ended July 31, the rate of return averaged 3.32%, compared with 4.64% in the 12 months ended July 31, 1953.

Gross in the first seven months amounted to $5,389,093,368 compared with $6,253,221,966 in the same period of 1953, a decrease of 13.8%. Operating expenses were $4,316,285,150 compared with $4,724,355,127, a decrease of 8.6%.

Thirty-two Class I roads failed to earn interest and rentals in the first seven months, of which 18 were in the Eastern district, five in the Southern region, and nine in the Western district.

CLASS I RAILROADS—UNITED STATES

	1954	1953
Month of July		
Total operating revenues	$779,793,987	$925,958,727
Total operating expenses	618,597,281	701,413,256
Operating ratio—percent	79.33	75.75
Taxes	67,664,974	107,540,858
Net railway operating inc. (Earnings before chgs.	71,102,960	94,421,704
Net inc., after chgs. (estimated)	49,000,000	72,000,000
Seven Months Ended July 31		
Tot. opr. rev.	$5,389,093,368	$6,253,221,966
Tot. opr. exp.	4,316,285,150	4,724,355,127
Opr. ratio—percent	80.09	75.55
Taxes	509,494,449	749,901,499
Net railway opr. inc. (Earnings before charges)	416,325,817	643,223,357
Net income, after charges (est.)	272,000,000	490,000,000

"Quick Assets" Down $307 Million in Year

"Quick assets" of the Class I railroads declined $307.2 million, from $1,914 million to $1,607 million, during the 12-month period from May 31, 1953 to May 31, 1954. The latter figure was equivalent to 81.1% of the current liabilities, the coverage a year earlier having been 84%.

These figures were given in the "Monthly Comment" of the Bureau of Transport Economics and Statistics, Interstate Commerce Commission. "Quick assets" include cash and temporary cash investments.

Net corporate working capital (total current assets less total current liabilities) dropped 6.6% during the 12-month period—from $1,446 million on May 1, 1953, to $1,351 million on May 31, 1954. If materials and supplies be excluded, the drop in net corporate working capital was 14.5%—from $609 million to $520 million.

Meanwhile, the total in the materials and supplies account was down only 0.8%. It was $830.5 million last May 31, compared with $836.8 million a year earlier.

Freight Car Loadings

Loadings of revenue freight in the week ended August 28 totaled 676,816 cars, the Association of American Railroads announced on September 2. This was a decrease of 2,008 cars, or 0.3%, compared with the previous week; a decrease of 141,845 cars, or 17.3%, compared with the corresponding week last year; and a decrease of 50,744 cars, or 7%, compared with the equivalent 1952 week.

Loadings of revenue freight for the week ended August 21 totaled 678,624 cars; the summary, compiled by the Car Service Division, AAR, follows:

REVENUE FREIGHT CAR LOADINGS

For the week ended Saturday, August 21

District	1954	1953	1952
Eastern	108,861	135,931	140,648
Allegheny	121,298	161,681	165,928
Pocahontas	46,925	60,601	63,239
Southern	113,202	124,338	128,503
Northwestern	115,763	146,242	149,845
Central Western	116,533	127,747	124,134
Southwestern	56,042	60,906	61,932
Total Western Districts	288,338	334,895	335,911
Total All Roads	678,624	817,446	834,229
Commodities:			
Grain and grain products	53,112	51,545	48,643
Livestock	9,059	8,714	9,676
Coal	110,425	137,038	164,008
Coke	6,841	12,959	13,605
Forest products	39,328	47,468	49,527
Ore	59,037	97,036	93,187
Merchandise l.c.l.	63,108	70,012	73,778
Miscellaneous	337,714	392,674	381,805
August 21	678,624	817,446	834,229
August 14	685,277	807,622	805,756
August 7	667,592	785,349	781,648
July 31	683,569	793,754	733,076
July 24	684,287	780,699	607,190
Cumulative total, 34 weeks	21,643,096	25,094,743	23,926,702

In Canada.—Carloadings for the seven-day period ended August 14 totaled 73,850 cars, compared with 67,304 cars for the previous seven-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
August 14, 1954	73,850	23,949
August 14, 1953	79,325	31,340
August 7, 1954	67,304	25,055
August 7, 1953	73,815	29,999
Cumulative Totals:		
August 14, 1954	2,217,564	893,179
August 14, 1953	2,455,339	1,024,788

Tax Take Again On Record Level

The proportion of "net railway operating income before taxes" now being absorbed by taxes is on a level equal to the previous peak, which was 1951's 56.1%.

That is also the figure for this year's first six months, according to an article in the "Monthly Comment" of the Bureau of Transport Economics and Statistics, Interstate Commerce Commission.

The article showed that the "net railway operating income before taxes"

INDEX TO VOLUME 136

The index to the latest volume of *Railway Age*, January-June 1954, is ready for distribution, and copies may be obtained by those subscribers desiring them. Requests should be addressed to Circulation Department, *Railway Age*, 30 Church street, New York 7. Subscribers who have in previous years made application for the index need not apply again.

in this year's first half was $787 million, and that the tax take of 56.1% amounted to $441.8 million, thus reducing the actual net railway operating income to $345.2 million.

Comparisons with prior years show that the range of the tax collectors' "shares" since 1921 has been from the 56.1% of 1951 and this year's first half to 25.4% for the five-year period from 1926 through 1930. The 1953 figure was 51.6%.

Public Relations

Railroads "Taken for Granted"

Metzman tells bankers the country does not realize how industry invests in continuous technological improvement

Railroads are not credited by the public with the many improvements they are continuously making, said Gustav Metzman, chairman and president of the American Railway Car Institute, in an August 27 address at the School of Banking of the University of Wisconsin. The public, he said, is inclined to take the railroads "too much for granted."

The fact is, of course, Mr. Metzman pointed out, that railroad management is demonstrating every day that it is actually alert and progressive in keeping pace with needs for modernization of physical plant to handle business more efficiently and safely.

Better Every Day—Improvements in plant and equipment include better and safer track, more effective and powerful locomotives, modernized yards and terminals—employing push-button switching and electronic controls and communications—safer and more economical cars, and improved operating and maintenance techniques.

No other form of transportation is so essential to national health, said Mr. Metzman. For the protection of the country's industries and the very life of its population, the railroads must continue to be the major transportation agency for handling intercity traffic. The railroads are important not only as stand-by facilities to be called upon in case of need, but they play a major, though often unappreciated part as citizens in the daily life of the

Conversion Cuts Transit Costs

An unusual rebuilding job by St. Louis Car Company is giving Chicago two transit vehicles for the price of one

The St. Louis Car Company is currently delivering a group of 250 all-metal rapid transit cars to the Chicago Transit Authority. They have been converted from post-war "PCC"-type street cars at a considerable saving over the cost of a transit car built new. The money thus saved has been used by the authority to acquire an equal number of odorless propane-fueled buses as replacements in surface service.

FROM STREET CARS, outmoded largely because of traffic congestion and high track maintenance costs, the Chicago Transit Authority is getting badly needed . . .

RAPID TRANSIT CARS at a cost of only $32,332 each. The $20,000 thus saved by conversion of modern surface units is buying a bus replacement for every car converted.

Basically similar to previous rapid transit cars built for Chicago by St. Louis Car, the new units are 48 ft long, nine ft four in. wide at window sills, and eight ft eight in. at the floor (because of platform clearance limitations). A new feature is installation of a public address system, by means of which a crewman announces station stops and other pertinent information to passengers. This system, plus use of remotely-controlled electric-powered doors, permits operation of trains of up to eight cars by a crew of two.

The cars are operated in semi-permanently coupled pairs with a total seating capacity of 100. Interior lighting is by beam-control flush ceiling fixtures, while heating is handled by thermostatically-controlled electric units along side walls near the floor. A forced-air circulation system handles 1,000 cu ft of fresh air per minute.

In the conversion, the street car bodies were replaced by completely new rapid transit bodies. Traction motors and trucks originally furnished were retained; but controls, circuit breakers, ventilating fans and push-button stations were furnished new by Westinghouse Electric Corporation. Each car has four motors totaling 220 hp. For stopping, the cars have (1) dynamic braking through traction motors, (2) a drum brake mounted on the motor drive shafts, and (3) an electro-magnetic track brake. An automatic train stop device, incorporated into the braking system, may be actuated by trackside equipment at interlocking plants and at certain block signal locations in the subway-elevated system.

communities they serve. They are self-supporting, providing their own facilities, and at the same time they contribute very largely to the support of the federal, state and local governments.

It Costs to Improve—Because the railroads are essential, and because they do contribute so largely to the support of government, they should be given "reasonable consideration" in legislative, administrative and taxation activities of these branches of government, he argued. Otherwise, they will not continue to be able to give satisfactory service to shippers and travelers, nor will they have sufficient standing in the capital market to continue to secure funds to support further improvement of fixed facilities and equipment at the rate research and technological advances have made possible.

"As to the future of railroads," said Mr. Metzman, "I have never been and am not now a pessimist—in fact, quite definitely the reverse. There are indications now that the traveling and shipping public will more and more require that each agency of transportation be self-supporting by meeting its own expense of operation and overall cost of remaining in business. With such a basis established and applied to all agencies we will see a growth in the stature of the rail transportation industry to the benefit of the public as a whole. Based upon what we have learned in the past and our experiments and research of the present, there are great possibilities that in the future the railroads may . . . go far beyond our anticipations."

Supply Trade

New Executives for ACF

J. F. Clark, vice-president, finance, becomes president, succeeding C. J. Hardy, Jr., elected chairman of board

Charles J. Hardy, Jr., who has been president of ACF Industries, Inc., since 1947, has been elected chairman of the board to succeed John E. Rovensky, retired. James F. Clark, who has been vice-president, finance, since 1952, has been elected president.

John P. Richmond, formerly comptroller, has been elected vice-president in charge of finance, and Paul M. Anderson, assistant comptroller, has been appointed assistant vice-president.

Mr. Hardy is a graduate of Williams College and of Fordham University. He was a member of the law firm

C. J. Hardy, Jr.

of Hardy, Stancliffe & Hardy from April 1930 to December 1941, when he was ordered to active duty by the Navy Department. Assigned to headquarters, office of the commandant, Third Naval District, he held the rank of lieutenant-commander when released to inactive duty in March 1944. He was elected vice-president and a member of the board of directors of ACF in September of that year and executive vice-president in 1946.

Mr. Clark is a graduate of Hotchkiss School and of Yale University. Prior to coming to ACF in 1948 he

J. F. Clark

was associated with Hemphill, Noyes & Co., of New York, as an investment banker, and specialized in corporate finance. During the war he spent several years in Washington, initially with Foreign Funds Control of the Treasury Department; later as assistant to Rubber Director William M. Jeffers, and finally as director, Rubber Bureau, War Production Board.

Clark Equipment Company has appointed the **George Industrial Equipment Company** as sole distributor of Clark materials handling equipment in the greater New York area.

James D. Bettridge, Toledo branch sales manager of **Owens-Corning Fiberglas Corporation** since 1950, has been appointed manager of the firm's Transportation Products Sales division. **Robie L. Cone, Jr.,** salesman in the company's Detroit office, succeeds Mr. Bettridge at Toledo.

Oxweld Railroad Service Company has been combined with **Linde Air Products Company** and has become the railroad department of Linde, with **K. I. Thompson,** formerly vice-president, sales, for Oxweld, as manager. **G. P. Bogert,** president, and **M. Burnett, Jr.,** vice-president of Oxweld, will continue in those capacities to assist in the transition, and Mr. Burnett, in addition, will assume new duties in another division of the company.

Robert S. Bubb, market engineer of **American Brake Shoe Company,** has been named director of market research, at New York.

P. L. Dafoe, on leave as vice-president and general sales manager of the Acme Steel Products division of **Acme Steel Company,** at Chicago, has been appointed manager of the firm's new Dexion division. **Lewis R. Miller** becomes assistant manager of the division.

L. L. Morgan, assistant sales manager, Plains division, of the **Caterpillar Tractor Company,** at Peoria, Ill., has been appointed manager of the sales development division there. Named as his successor is **Louis E. Schumacher,** supervisor of field engineers—sales development division.

Symington - Gould Corporation has appointed **W. Fred Flickinger,** formerly with Baldwin-Lima-Hamilton Corporation, as sales engineer, and **James M. Murdock** as service engineer, both with offices in New York. Mr. Murdock was formerly employed at the Depew, N.Y., plant.

Clayton W. Muir, sales representative of **International Business Machines Corporation** at Chicago, has been appointed special representative in the transportation department, with office in New York.

Arthur A. Batts, Jr., has been appointed director of market research for **American Locomotive Company.** Mr. Batts comes to Alco from the Carborundum Company, where he was director of commercial research for seven years. With expansion of Alco's production into new fields within the past few years, the company has been building up a strong marketing organization. In 1953, for the first time in

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SINGLE ACTION *Twin Cushions*

exceeds every requirement of the Association of American Railroads

58.3%
EXTRA CAPACITY
START OF TEST

52.6%
EXTRA CAPACITY
END OF TEST

OFFICIAL CAPACITY
AT NOMINAL TRAVEL
28,500 ft. lbs.

AVAILABLE CAPACITY
WITHOUT METAL CONTACT
51,600 ft. lbs.

In the A.A.R. Tests all five test gears functioned perfectly. The Official Capacity at nominal travel exceeded the A.A.R. specification requirements by 58.3 percent. After the endurance and sturdiness tests these gears exceeded the capacity requirements by 52.6 percent.

In short, the tests indicate that the Waughmat Single Action TWIN-CUSHION, Type WM-DC-5, can be expected to last the lifetime of a car . . . of a car that lasts longer because of the superior protection this gear provides.

The single action TWIN-CUSHION is composed of two sets of WAUGHMATS held in an interlocking steel housing. Both sets of WAUGHMATS function in unison, cushioning in pull and in buff.

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CANADIAN WAUGH EQUIPMENT COMPANY, MONTREAL

TWO NEW MANAGERS in the marketing section of General Electric Company's Locomotive and Car Equipment Department are Rembert C. Alley (left), appointed manager of railroad equipment sales, and Robert A. Williamson (right), manager of railroad locomotive sales. Mr. Alley has been head of locomotive sales, and Mr. Williamson, acting marketing manager, for the past year, while F. H. Craton was on special assignment.

its history, Alco's production of "new" regular products reached $85 million, or just about the volume of its annual locomotive sales. In the first six months of 1954, the amount of such diversified production exceeded that for the same 1953 period, according to the company's half-year report.

Cooper M. Schley has joined the sales organization of **Pennsylvania Salt Manufacturing Company,** and will represent the metal processing and maintenance chemicals departments in southern territory, with office in Birmingham, Ala. He was formerly associated with the Tennessee Coal & Iron Division of United States Steel Corporation.

Thomas Truck & Caster Co. has purchased assets of the **Lanham Company,** manufacturers of skid platforms. Construction of a modern one-story building in Keokuk, Iowa, to expand present Thomas manufacturing facilities and to integrate Lanham equipment is under way.

Operations

Four RRs Agree to Use Norfolk Port Facilities

The Norfolk Terminal Company, a subsidiary of Chesapeake Industries, has signed an agreement, for use of its Norfolk, Va., marine terminal facilities, with the Atlantic Coast Line, the Norfolk Southern, the Seaboard Air Line and the Southern. Use of the facilities by the four roads is to begin in September.

"Carbonless" Book Tickets Get Test on Milwaukee

The Milwaukee Road has begun an experiment with book-type interline passenger tickets which feature a newly developed "carbonless" paper.

Harry Sengstacken, Milwaukee passenger traffic manager, has distributed 750 of the new tickets to ticket offices in six cities. He will receive special reports from these offices, and also will ask other roads for their reactions to the experiment.

The "carbonless" paper gives clear reproduction throughout a four-coupon book ticket. A standard dater stamp can be used. Other information required on the ticket may either be typed or inserted with Addressograph plates. Tickets are said to be unalterable without evidence of manipulation, and the paper can be watermarked with a road's insignia. Perhaps most important, tickets made with the new paper are expected to cost less than those requiring carbon.

The special clay-coated paper was developed by the National Cash Register Company of Dayton, Ohio. Also participating in the Milwaukee test is the printer of the new tickets, Rand McNally & Co. (See *Railway Age*, May 3, page 28.)

Mr. Sengstacken is chairman of the Committee on Standard Forms of Interline Tickets and Association Ticket Paper for the American Association of Passenger Traffic Officers. He plans to report on the Milwaukee's experiment at the association's annual meeting in Pasadena, Cal., October 10-13.

Meanwhile, if the experiment shows favorable results, the Milwaukee will immediately begin changing over to the new "carbonless" paper in book tickets. Mr. Sengstacken believes these tickets-without-carbon will be favorably received by both the public and railroad employees. Milwaukee ticket offices participating in the experiment are at Chicago, Milwaukee, Minneapolis, St. Paul, Seattle and Tacoma.

NP Piggyback Service

Piggyback freight service between the Twin Cities and Fargo, N.D., was inaugurated by the Northern Pacific September 1. The service, which will be on a daily, overnight basis in both directions, also will include Moorhead, Minn., on the opposite bank of the Red River of the North from Fargo.

A number of 53-ft flat cars have been equipped with tie-down devices and guard rails at the NP's Como shops. Each car will handle two 24-ft trailers, and will operate in regularly scheduled freight trains. The trailers, which have been leased for the new service, have been painted in the new NP colors of two-tone green with white striping.

The trailers will be used to provide door-to-door pickup and delivery service for merchandise traffic between the two metropolitan centers. The rail schedules provide a late night depart-

"WANT A BOAT?"

"Want a boat? There are eight of 'em across our Old Colony tracks. Take 'em away and we'll give 'em to you. Two houses, too! Same terms."

That's what a New Haven spokesman told a *Railway Age* reporter the morning of September 1, about 24 hours after "Hurricane Carol," roaring in off the Atlantic with unexpected fury, had worked havoc in southern New England and Long Island.

Worst railroad damage from the almost unpredicted storm was on the New Haven's Old Colony lines, serving Cape Cod, where, in places, debris was piled eight feet deep across the tracks. The road's main Shore Line, between New York and Boston, was washed out at Allyn's Point, Conn., and also hard hit elsewhere. Eleven trains were delayed for varying periods, and many passengers were rerouted over the inland line via Willimantic, Conn., or over the New York-Boston route of the New Haven and the Boston & Albany through Springfield, Mass. The Shore Line was partially restored to service early on September 1, less than 24 hours after the storm struck. There were no train accidents or passenger casualties.

The New Haven's New York commuter services were also affected by the storm, as were those of the Long Island and the New York Central, principally because of power failures. Those delays, however, were limited both in duration and extent.

SIX MILES south of Idaho Falls, Idaho, Morrison-Knudsen had a big job for the Union Pacific. Rails had to be raised seven inches on new ballast, shoulders and banks widened and drainage constructed.

Every piece of equipment on this particular job was Caterpillar. This was the lineup: two D8s and a D6 (all equipped with Caterpillar Bulldozers), a No. 12 Motor Grader, two DW20s with matching scrapers and a D7 for push loading.

There are hard-headed business reasons why *Cat** machines compose "a major portion of Morrison-Knudsen's multi-million-dollar fleet of construction equipment."

Look, for instance, at the work produced by the big, dependable No. 12 Motor Grader. Besides being essential on new construction, it can be used for keeping right of way clean, and reshaping slopes and drainage ditches. When winter comes the No. 12 becomes a valuable snow-removal unit.

In addition, this 100-horsepower versatile machine is kind to your operators. Constant-mesh transmissions enable them to shift easily. No large gear housings interfere with their visibility. Anti-coast brakes prevent creeping of adjustments under load and vibrations. In other words, the blade stays where the operator puts it.

Your Caterpillar Dealer will be happy to show you why the No. 12 will do more work, better, day after day. Have him demonstrate on *your* job. Just name the date.

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ure and early morning arrival in each direction on the 252-mi run. Traffic will move under existing rail tariffs.

Transcontinental Sleeper Via Southern Route

A new daily coast-to-coast through rail passenger service between Washington, D.C., and Los Angeles, via New Orleans, was inaugurated August 29.

The through car, a roomette and bedroom Pullman, is being operated between Washington and New Orleans in "The Crescent" (Southern; Atlanta & West Point; Western of Alabama; Louisville & Nashville); and between New Orleans and Los Angeles in the "Sunset Limited" (Southern Pacific). It will provide the fastest rail service between Washington and Houston and San Antonio.

A highlight of the trip—both ways—will be an evening layover in New Orleans that will give travelers time to dine at one of the city's famous restaurants.

"Dial a Diesel"

By means of existing telephone lines and a system of relays, diesel locomotive engines can be started by telephone anywhere on the Pittsburgh & Lake Erie when they are connected to a plug-in station, according to an announcement by the New York Central, of which the P&LE is an affiliate.

The invention, the announcement says, provides a practical, economic solution for protection of diesel engines out of service at remote points. It gives a man at a central control point constant supervision over all engines using the device, thus preventing freezing, overheating and unauthorized movements, and detecting vandalism. In tests, P&LE diesels have been started from as far off as New York, although distance is said to mean nothing in operation of this electrical supervisory system for switching locomotives, which has been nicknamed "D-A-D" ("Dial a Diesel").

The system operates as follows:

Beside each track where engines are to be left when out of service, there is a relay box or plug-in station. From the station a cable is run to a receptacle on each locomotive. Each engine's electrical circuit is so arranged that relays from the plug-in station enable it to close its own starting contact. A temperature relay system indicates when water temperature reaches a pre-set low or high (50 deg and 150 deg, respectively, on the P&LE). At either temperature the system causes a bell (or buzzer) on the locomotive to sound. This sound is transmitted to the central control station in McKees Rocks, Pa., by a telephone mouthpiece on the engine.

At the control station, a bell rings and a light flashes, indicating that an engine needs attention. The control-room operator then operates the various engine codes to locate the engine. He first hears the fuel pump start and then the engine crank, if the alarm comes from a cold engine. Another code is used to shut off an overheated engine. An engine, if not running right, can also be shut off at any water temperature.

Another control enables the operator to shut an engine off so it cannot be started from the control center. If anyone disconnects the plug at an engine receptacle, that fact is automatically signalled to the control center so necessary protective steps can be taken at once.

Where a selective code system is not available, the control-center operator will contact the switchboard operator, asking the operator to send the various codes for whatever he may wish to do. On one telephone circuit 241 diesel units can be controlled.

The system is the invention of Dale W. Shackley, superintendent of communications, and James J. Wright, manager of equipment, P&LE.

Rates & Fares

Twin Cities Excursion Results Disappointing

Results of recent Twin Cities-Chicago excursions (*Railway Age*, June 14, page 15) were so mixed that, in the opinion of some officers of participating railroads, the excursions appeared hardly justifiable.

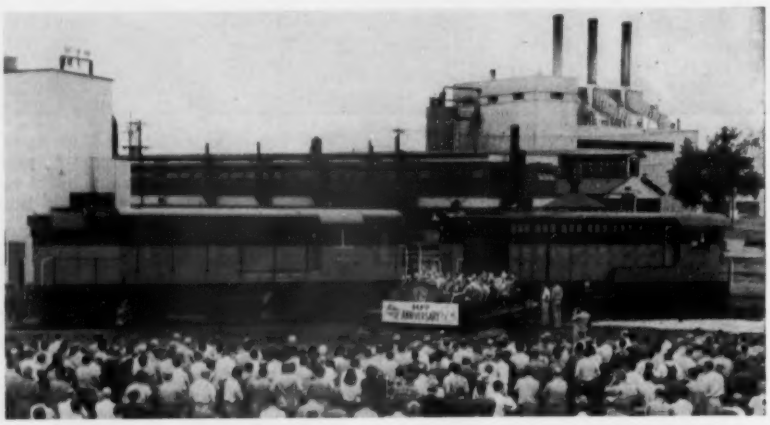
A $10 fare was charged by the Milwaukee, the Burlington and the North Western for a round-trip to either terminus on the weekend of June 18-20. The two roads serving Milwaukee charged $8 for a round-trip to or from the Twin Cities. The Milwaukee provided a special train of "Hiawatha" coach, dining and dome car equipment, and offered a low-cost "continental breakfast." The other roads utilized extra streamlined equipment on existing trains, and made no special dining car concessions.

As initiator of the excursion idea, and perhaps its most extensive promoter, the Milwaukee carried the greatest number of passengers—"well over 300 in each direction," according to Harry Sengstacken, passenger traffic manager. He termed the experiment a "modest success" and indicated he might try something similar in the future. Overall earnings of the special trains averaged about 45 cents a train-mile, after deducting all costs except advertising.

Mr. Sengstacken said one outcome of the experiment was quite surprising—both on his own road and in the combined total of the three, the flow of traffic was virtually balanced in the two directions. "We expected," he said, "to find the bulk of travel toward Chicago for ball games, theaters and museums. Apparently the extremely hot weather sent a lot of Chicagoans up north looking for cooler breezes." He said the excursion seemed to have little effect on regular travel (because of its short-limit nature) and that excursionists, for the most part, appeared to be family groups who might normally travel by car. He added that the Milwaukee's district passenger offices, both in Chicago and the Twin Cities, had since received "a considerable number" of inquiries as to when the excursion might be repeated.

C&NW—C. E. Quackenbush, general passenger agent, termed the excursion "an interesting experiment." He said his road met the Milwaukee's rate "for competitive reasons," but that

(Continued on page 55)



THE LATEST AND THE FIRST locomotives built by Fairbanks, Morse & Co. took part in ceremonies marking FM's 10th anniversary in the locomotive building field. On the right is the company's first unit—a 1,000-hp, 120-ton switcher built for the Milwaukee in 1944. Here it has just pulled from FM's Beloit (Wis.) shops a newly completed 1,600-hp general-service unit also built for the Milwaukee. In brief ceremonies that followed, L. H. Donald, the road's operating vice-president, and F. W. Bunce, general superintendent locomotive power, accepted the new locomotive from V. H. Peterson, vice-president of the builder's railroad division, and W. E. Watson, general manager of the Beloit works. Approximately 1,100 FM locomotives were built in the decade.

"ONE STOP" SHOPPING FOR DIESEL PARTS SAVES MONEY!

You can save a lot of expensive paper work and parts shopping by buying genuine General Motors Locomotive parts from your regional Electro-Motive Parts Warehouse. A single requisition can cover more than 35,000 different parts used in General Motors Locomotives. And with 24-hour delivery in emergencies, you avoid expensive locomotive down time, too.

Electro-Motive is the only Diesel Locomotive parts manufacturer with this "One Source—One Responsibility" system. With so many GM Locomotives in service today, it's saving thousands of dollars for railroads. Nine Parts Warehouses cover key railroad centers across the nation with complete stocks of genuine EMD parts. A tenth Warehouse is currently being built.

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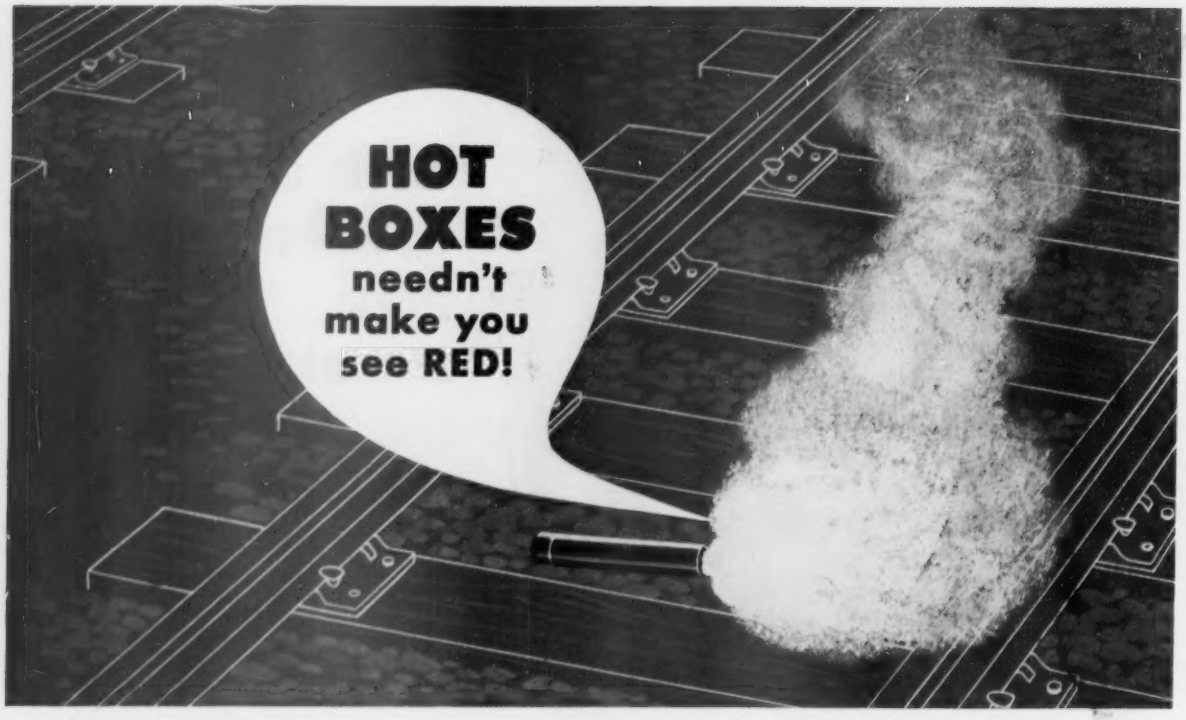

. . . Eliminate them with SKF FREIGHTER ROLLER BEARINGS

You know, of course, that roller bearing journals will eliminate hot boxes in freight service.

So — when you're equipping freight cars with roller bearings, remember *SKF has equipped more freight cars throughout the world than any other Company.* And remember one name —

SKF FREIGHTER ROLLER BEARINGS

called FREIGHTER because they improve rail freight movement in these 8 important mechanical and economic ways:

- 1st of EIGHT — **Maximum safety — eliminates the hot box problem.**
- 2nd of EIGHT — **Better riding qualities — less lading damage.**
- 3rd of EIGHT — **Minimum wear of wheels and truck parts.**
- 4th of EIGHT — **Low lubrication cost.**
- 5th of EIGHT — **Long bearing life.**
- 6th of EIGHT — **Easy installation. No adjustments at assembly.**
- 7th of EIGHT — **Adaptability to proposed AAR standards.**
- 8th of EIGHT — **Best overall economy.**

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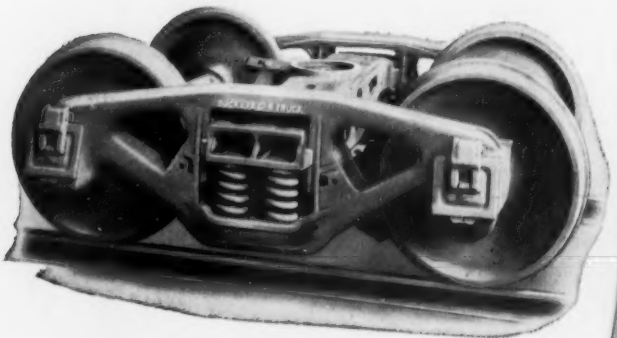

First featured on Buckeye's famed C-[illegible] (Cushion Ride) truck . now standard process on all Buckeye trucks with integral journal boxes.

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Leading the Way—Regardless! By Hungerford

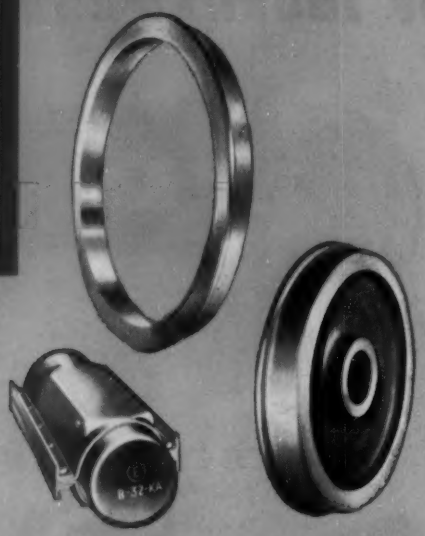
We will be glad to send you enlarged copies of this Hungerford cartoon (without advertising copy) for posting on your office and shop bulletin boards, or a cut for your company magazine, at cost.

E Edgewater Steel Company

PITTSBURGH, PA.

Serving America's Railroads

with ROLLED STEEL TIRES
ROLLED STEEL WHEELS
AND DRAFT GEARS



Standard's

Diagonal Panel Roof

ONE OF THE NECESSARY COMPONENTS OF
A PROFIT-PRODUCING FREIGHT CAR

If the profit a freight car makes the first five years in service is wiped out by maintenance costs and damage claims during the next five—what has been the total ten year record for that car?

It's a NON-profit-producer—a car that should never have been put on the line.

Standard components are laboratory-designed to produce railroad profits for the life of the car.

Standard RAILWAY EQUIPMENT MANUFACTURING COMPANY
GENERAL OFFICE: 4527 Columbia Avenue, Hammond, Indiana
New York · Chicago · St. Paul · San Francisco

Standard Railway Equipment Manufacturing (Canada) Ltd.

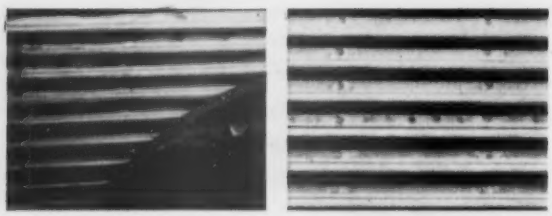
AT THE FRONTIERS OF PROGRESS YOU'LL FIND . . .

AN AIR REDUCTION PRODUCT

In seconds . . . in any position . . . without jigs or back-up plates, this light, easy-to-handle AIRCOSPOT gun spot welds by making contact with only one side of the work.

REPAIR STAINLESS STEEL PANELING *in minutes* with the New AIRCOSPOT GUN!

AIRCOSPOT, Airco's new one-side-only inert arc spot welding gun, takes the time and expense out of repairs to stainless steel passenger cars. Working alone, one man can make thirty welds per minute in stainless sheet up to 3/32-inch thick . . . neat, strong welds that have the job finished before you could even get it started with self-tapping screws, rivets, soft-soldering or pressure spot welding. The AIRCOSPOT gun weighs only four pounds and is nine inches long . . . needs no jigs nor back-up plates . . . takes only a second to make a weld in any type of steel . . . works with any DC power source . . . *without* delicate high-frequency circuits to get out of order. Drop us a postcard for folder and price information.



Compare the stainless steel side panel repair made with slow, old-fashioned self-tapping screw and rivet methods (left) with the neat accurate job done with AIRCOSPOT on a similar panel (right). Because AIRCOSPOT ends drilling and the mess of solder and flux, more and more railroads and car builders are using this fast, sure welding technique in kitchen equipment, washroom facilities, vestibule paneling and other work on light-gauge mild and stainless steel sheet.

AIRCO

AIR REDUCTION

60 East 42nd Street • New York 17, N. Y.

Divisions of Air Reduction Company, Incorporated, with offices in most principal cities

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Represented Internationally by
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Foreign Subsidiaries: Air Reduction Canada, Limited, Cuban Air Products Corporation

Products of the divisions of Air Reduction Company, Incorporated include: AIRCO — industrial gases, welding equipment, and acetylenic chemicals • PURECO — carbon dioxide, liquid-solid ("Dry-Ice") • OHIO — medical gases and hospital equipment • NATIONAL CARBIDE — pipeline acetylene and calcium carbide • COLTON CHEMICAL COMPANY — polyvinyl acetates and alcohols and other synthetic resin products.

The SAFEST distance between two points

The safest, most efficient coupler for freight cars highballing on today's precision schedules, is the AAR Alternate Standard Type F Interlocking Coupler.

Safest because—in event of derailment the interlocking wings serve to keep cars in alignment with each other and prevent them from climbing or overturning.

Efficient because—it can be coupled with any standard AAR coupler . . . it is nearly 25% stronger than the E coupler . . . lowers maintenance by minimizing free slack.

For maximum safety and efficiency—specify National Quality-Controlled Type F Interlocking Couplers and National Multi-Pad Rubber Draft Gears.

A-9834

NATIONAL TYPE-F INTERLOCKING COUPLERS

Technical Center Cleveland

"Progress through Research"

NATIONAL MALLEABLE and STEEL CASTINGS COMPANY

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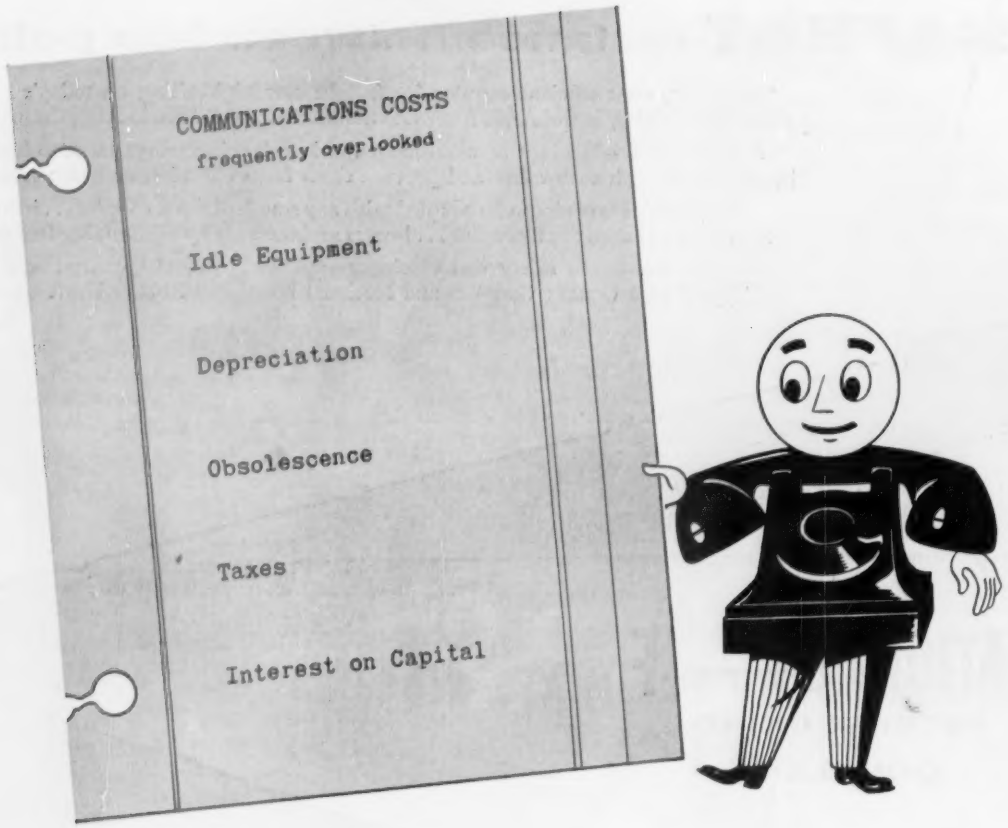


BELL SYSTEM TAKES THE HIDDEN COSTS OUT OF YOUR COMMUNICATIONS

The first cost isn't the last cost, when you provide your own communications. Many of the continuing costs are buried deep in idle equipment, taxes, depreciation, loss of interest on capital.

Bell System gives just the service you need—at low cost. It's tailored to your operations today, and flexible to meet possible change tomorrow. Your Bell System communications are efficient and dependable, with new equipment and techniques constantly being developed to improve your service.

When you use Bell System communications, you get the benefits of trained personnel, expert supervision, continuing analysis. This high-quality service doesn't tie up capital but leaves your money free for income-producing investments in your business.

• • •

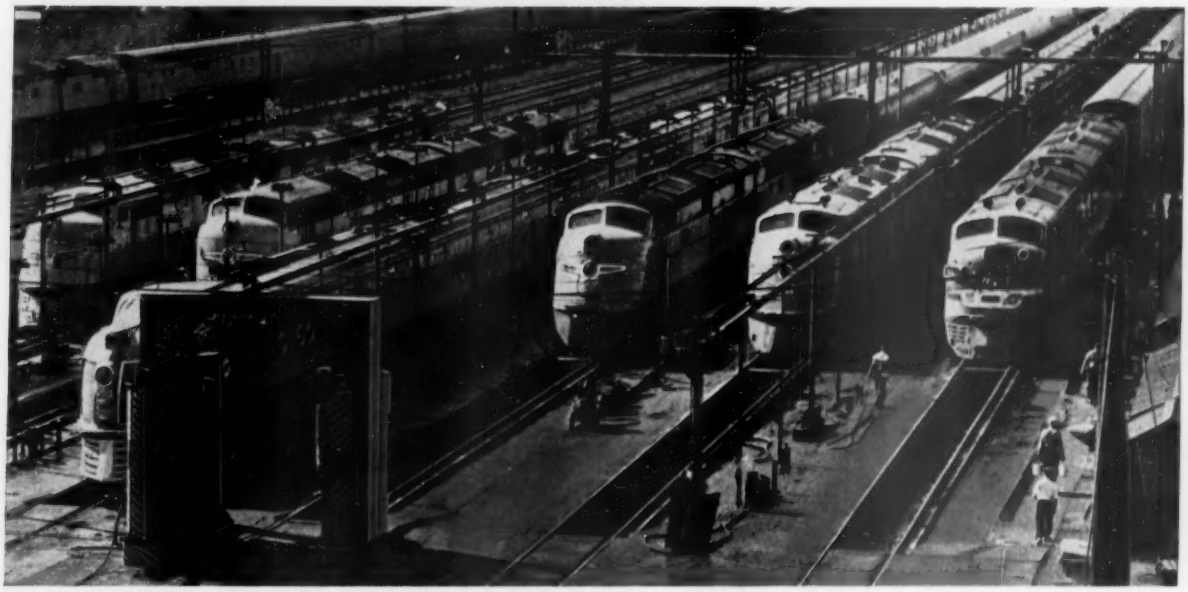
The communication advantages Bell System offers railroads can be pinpointed to your Road in a detailed survey, which is of course made without charge. Talk this over with your Bell Telephone representative.

BELL TELEPHONE SYSTEM

TELEPHONE MOBILE RADIO TELETYPEWRITER INTERCOMMUNICATION AND PAGING SYSTEMS TELEMETERING AND REMOTE CONTROL

GET UNINTERRUPTED "ON LINE" SERVICE

. . . with low cost Exide-Ironclad diesel batteries!



WHEN DIESELS are equipped with Exide-Ironclad batteries you are assured high availability of equipment—uninterrupted "on line" service. These ruggedly built batteries assure quick starting and the positive operation of control equipment because they have ample reserve power at high sustained voltage. In addition, lower costs for operation, maintenance and depreciation make Exide-Ironclad diesel batteries your best power buy—AT ANY PRICE!

THE POSITIVE PLATES are the heart of any battery. Only Exide uses a slotted tube construction. By use of tubes, more active material is exposed to the electrolyte, providing *greater power*. Also, more active material is retained, giving *longer working life*.

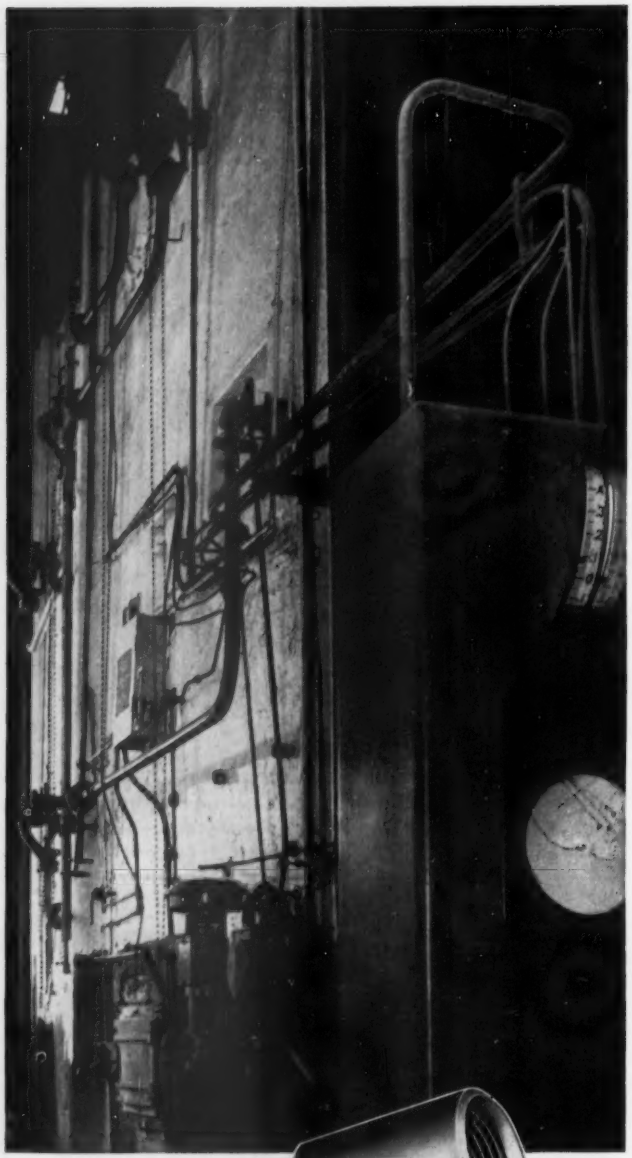
DEPENDABLE POWER, ample reserve power for any diesel need, comes from improved Exide-Ironclads. Prompt delivery. For full details, call your Exide sales engineer—write for Form 4843 (Installation and Maintenance of Diesel Starting Batteries).

Your best power buy
. . . AT ANY PRICE!

Exide®
IRONCLAD® BATTERIES

Exide INDUSTRIAL DIVISION, The Electric Storage Battery Company, Philadelphia 2, Pa. • *Exide Batteries of Canada, Limited, Toronto*

This YOLOY pipe has lasted 6 times longer

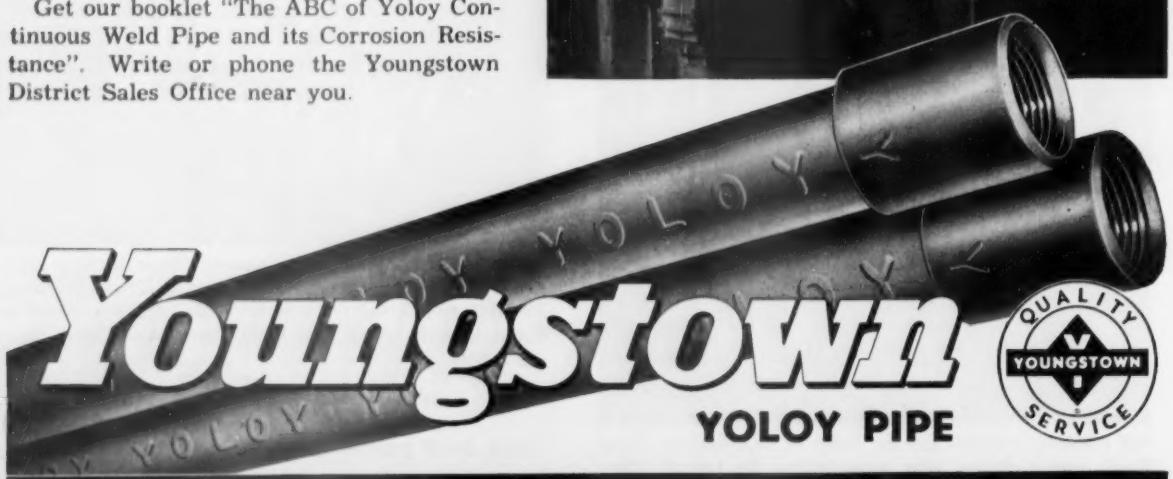


The pipe shown in the photograph of this large boiler carries steam for the "soot" and "fly ash" blower system in an Ohio electric plant. The service is so severe that regular carbon steel pipe had to be replaced as often as 60 days.

A solution for this corrosion problem was obtained by installing Yoloy pipe. Now, twelve months later, the Yoloy pipe is still in service—hasn't developed a single leak. It has lasted six times longer, and looks good for many months more.

Yoloy Continuous Weld Pipe is made from the same nickel-copper steel composition that has proved so successful in the oil, mining, railroad, chemical, trucking and other industries where resistance to corrosion and abrasion is of prime importance. It is now available in pipe sizes, from ½" to 4".

Get our booklet "The ABC of Yoloy Continuous Weld Pipe and its Corrosion Resistance". Write or phone the Youngstown District Sales Office near you.



Youngstown

YOLOY PIPE

QUALITY YOUNGSTOWN SERVICE

THE YOUNGSTOWN SHEET AND TUBE COMPANY *Manufacturers of Carbon, Alloy and Yoloy Steel*

General Offices: Youngstown, Ohio - District Sales Offices in Principal Cities

SHEETS - STRIP - PLATES - STANDARD PIPE - LINE PIPE - OIL COUNTRY TUBULAR GOODS - CONDUIT AND EMT - MECHANICAL TUBING - COLD FINISHED BARS - HOT ROLLED BARS - BAR SHAPES - WIRE - HOT ROLLED RODS - COKE TIN PLATE - ELECTROLYTIC TIN PLATE - RAILROAD TRACK SPIKES

When a Diesel has a "flat"...

... back to the shop it goes. And every hour of down-time means money *lost*. Whiting Electric Portable Jacks help get that Diesel back on the track quickly. These versatile, safe, inexpensive jacks-on-wheels lift higher, faster and easier. Use them inside or outside the shop—eliminate waiting and spotting time. They serve for major repairs, too ... multiply any shop's work space. Used by leading railroads because they provide *more* operational advantages. Write *today* for booklet that gives complete information.

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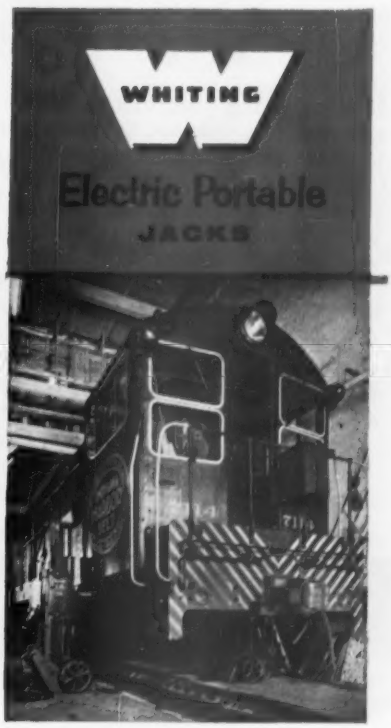
15603 Lathrop Avenue, Harvey, Illinois



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EVAPORATORS AND SPRAY DRYERS

Moving for the MoPac

TWO INTERNATIONAL TD-14A crawler tractors with matched scrapers restore embankment near Thrall, Texas, following replacement of old rails with new 115-pound rails.

INTERNATIONAL crawlers used by Missouri Pacific Railroad on widespread improvement program

Playing a big part in the Missouri Pacific's planned progress are INTERNATIONAL crawler tractors with matched dozers and scrapers.

Hundreds of off-track jobs are being completed daily with speed and economy. And when it comes to ease of operation, listen to what dozer operator C. J. Miller has to say: *"I like the way this TD-14A handles, whipping around a telephone pole or holding a steady line just inches away from the railroad tracks. In this work you have to be able to look where you're going and go where you look. You've really got it made with a TD-14A."*

Seven powerful models of reliable INTERNATIONAL crawler tractors with matched equipment are ready to do the job faster and better for you. And now the high-speed INTERNATIONAL two-wheel, rubber-tired tractors with scrapers round out the complete earth-moving line that comes in the Big INTERNATIONAL Package.

Check with your International Industrial Distributor today. He'll gladly arrange a demonstration of any INTERNATIONAL equipment . . . anywhere, any time you specify.

INTERNATIONAL HARVESTER COMPANY, CHICAGO 1, ILLINOIS

INTERNATIONAL

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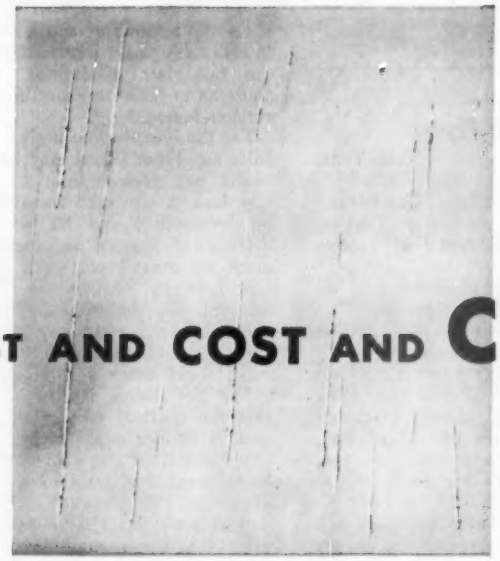
*Phased Equipment—Machines designed and built to handle each major phase of earthmoving most efficiently and economically.

For every move in Earthmoving

ON TRACKS ...ON RUBBER

See INTERNATIONAL'S "Job-Phased" equipment



SCRATCHES THAT COST AND COST AND COST

In Diesel Oil Filtration, too . . . An Ounce of Prevention Can Preserve the Life of an Engine

Almost too small to be seen, but large enough to destroy the efficiency of railroad Diesel engines, tiny scratches and abrasions on engine parts are caused by the grit and dirt picked up by fuel and lube oils in railroad service. This grit, plus the sludges and gums that foul engine parts, cost railroads many dollars in down time, replacement parts, repair and maintenance expense.

That's why WIX Engineered Filtration is so important to you. For WIX "Prescription" Filtrants are engineered, Laboratory tested and field proved for individual engine characteristics as well as variables in operating and climatic conditions—provide peak filtering efficiency in every type of service. WIX Engineered Cartridge construction assures precision fit, longer Cartridge life and ease of maintenance.

WIX has unmatched research and production facilities that are responsible for this great Line of Filter Cartridges for railroad service. From this combination of laboratories, plants and equipment has come many of the advances in modern filtration that stretch out oil mileage and preserve the life of engines. Ask us to show you what this specialization in railroad Diesel Filtration can do for you.

ENGINEERED FILTRATION

- Selection of "Prescription" Filtrants: Cotton Threads, Blended Cotton Threads, Felted Paper.
- Uniform volume, density packed in one-piece Sock. Integral End-Seal or Grip-Seal Cartridge construction.
- Spring-reinforced center tube, slotted for greater, more even flow rates.
- Tin-plated metal parts. Bale-type handles for easy installation and servicing.

ENGINEERED **wix** FILTRATION

WIX CORPORATION • • • • • GASTONIA • N • C

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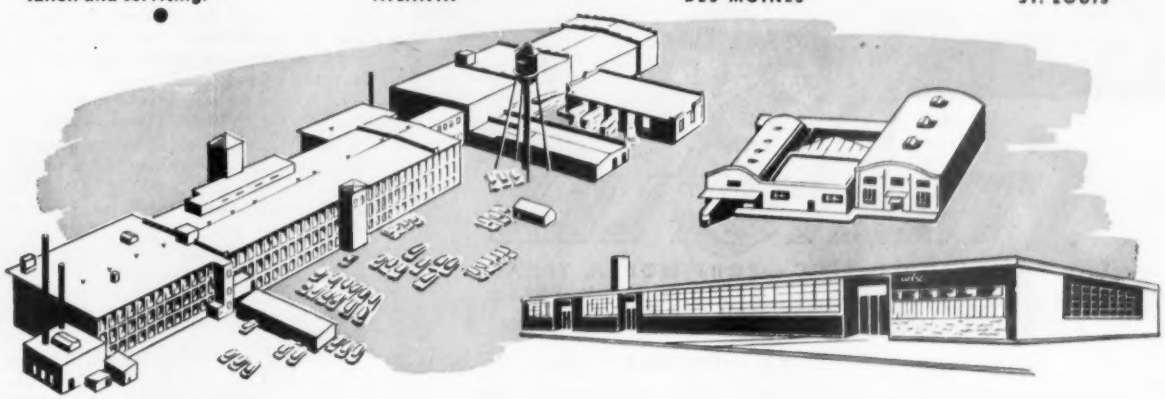

Letters from Readers

Speed Is a Factor In GTM per $1 Figures

NEW YORK

TO THE EDITOR:

A recent ICC study compared the fuel cost, on a gross ton-mile basis, of the three chief types of motive power.

The average cost of diesel fuel oil is stated to be 9.91 cents per gal. This is equivalent to 72 cents per million Btu. The average cost of electric power is shown as 1.088 cents per kwh. Coal is stated to be $5.52 per ton. It is further stated that diesels produced 5,582 gross ton-miles per $1 of fuel, coal burning steam locomotives produced 2,803 gtm per $1, while electric locomotives produced 3,100 gtm per $1.

Off-hand, this comparison does not place the electric locomotive in a very favorable position, but let us examine these figures a little more closely.

All locomotives, regardless of type, will use the same amount of energy at the rail to haul the same number of tons the same distance at the same speed. Any difference in the amount of work done per dollar by different types of fuel should simply reflect the cost of the fuel or energy, and the efficiency or losses entailed in converting and transmitting that energy to the rim of driving wheels, unless the work is done at a different speed.

To investigate these energy costs at the rail, fair assumptions must be made as to these transmitting and conversion losses.

For the electric locomotive, at 11,000 volts a-c, these losses may be assumed to be not greater than 15 per cent line loss, 3 per cent transformer loss on locomotive, and 80 per cent efficiency of motors and gears, which gives an overall efficiency of 66 per cent between the metered supply and the rail. Of the 92 kwh bought per dollar, 66 per cent or 60.5 kwh are used at the rail to haul 3,100 gtm. This is 19.5 watt-hours per ton-mile.

For the diesel, it can be assumed that the thermal efficiency of the engine is 33 per cent (most diesels are fairly new), 80 per cent of the output being used for traction through the generator (90 per cent efficient) and motors and gears (85 per cent efficient) giving a combined overall efficiency of 20.2 per cent. The cost of diesel fuel is 1,390,000 Btu per dollar. There are 3,413 Btu in 1 kwh at 100 per cent efficiency. At 20.2 per cent efficiency, 82.5 kwh used at the rail will haul 5,582 gtm. This is 14.7 watt-hours per ton-mile.

Since these figures cannot be equated either way without making assumptions of efficiency values which will not stand up under analysis, the only other possible reason for their difference is that the two types of locomotives are doing their work at speeds which are approximately proportional to their watt-hours per ton-mile.

The diesel is now moving 75 per cent of the freight train mileage in this country. The average freight train speed in 1953 is stated to be 18.1 mph (*Railway Age*, January 11, p. 123).

If the average speed of the diesel is assumed to be 18 mph, then the average speed of the electric will be 1.33 times this, or 24 mph. To match this performance, there would have to be nearly one-third more diesel units in service on each freight train, unless all the present units are loafing on the job.

If the statistics indicate that the diesels hauled 5,582 gtm per hour for $1, then the electrics hauled 3,100 x 1.33, or 4,125 gtm per hour per dollar. These two values are in direct proportion to the amounts of energy supplied, per dollar, to the wheel rims, viz. 82.5 and 60.5 kwh.

But the above analysis is still loaded unfavorably to the electric, in that 15 per cent line loss is assumed, with no equivalent charge to the diesel. The stated cost of diesel fuel, 9.91 cents per gal, does not include handling charges by the railroads for this fuel. Surely, this is a "line-loss" charge which has not been included in the diesel fuel costs.

H. F. BROWN
Consulting Engineer
Gibbs & Hill, Inc.

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STRATOFLEX Precision Elbow Hose Fittings are designed and engineered to fill your requirements. Whatever your specifications in detachable reusable hose fittings, and flexible hose assemblies, specify STRATOFLEX!
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Rae Paper a "Must" For Railroad People

DENVER, COLO.

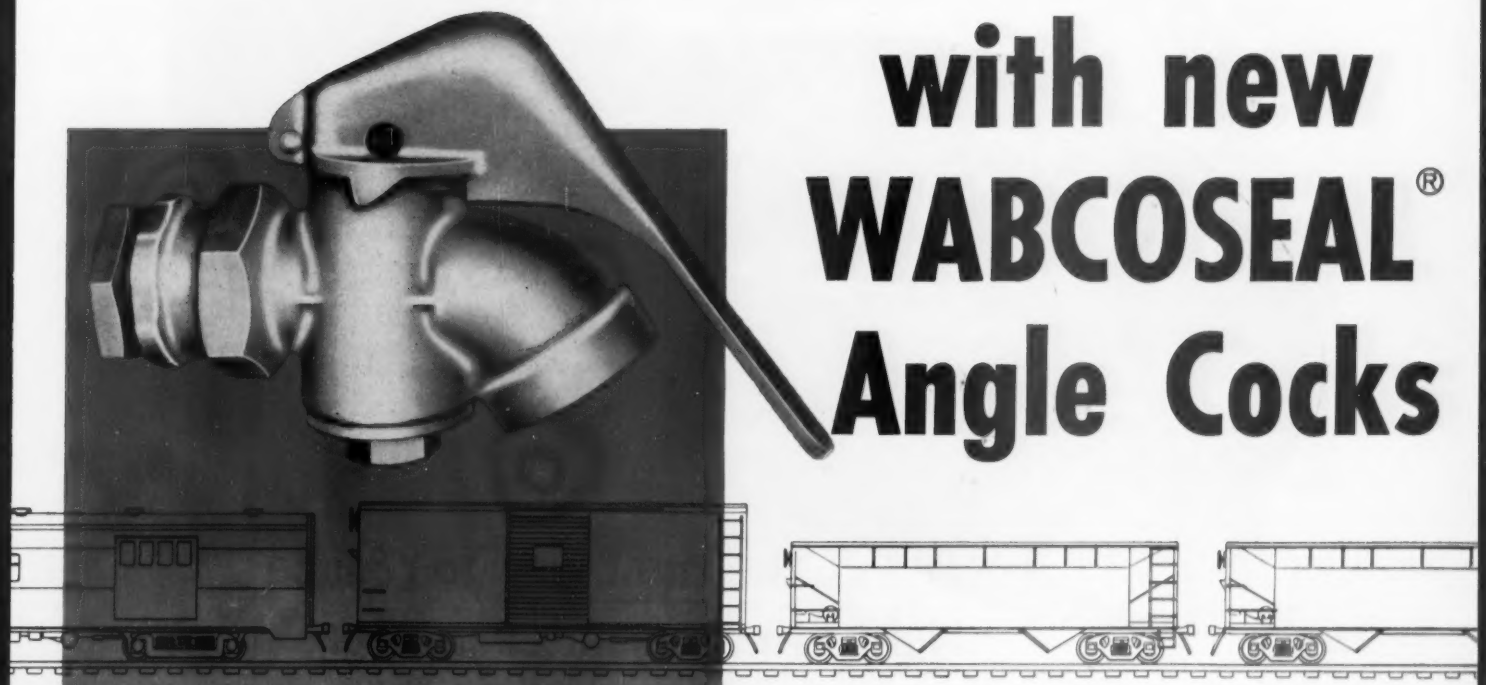
TO THE EDITOR:

In my opinion Mr. William J. Rae's winning essay on "The Railroads' Inherent Advantages" [*Railway Age*, July 5, page 22] should be "must reading" for every railroad president unless he has already taken the time to personally read it. Every freight traffic manager in charge of rates should be required to make a study of it. In addition, every railroad employee having anything to do with rates, cost per unit of transportation research, analysis or statistics should be required to analyze and study this essay so that the inherent advantages pointed out therein may be fully utilized.

In further regard to your recent contest—Mr. Warren W. Brown, president of the Monon, is to be complimented for offering such a handsome prize; and *Railway Age* must be proud to have had the opportunity to conduct such a fine and important contest. I believe *Railway Age* is doing a good job in bringing transportation items of interest before transportation and shipping personnel. Keep up the good work.

F J. REBHAN
Traffic Manager
American Crystal Sugar Company

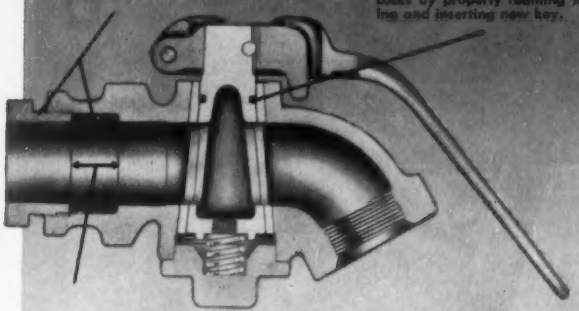
Stop those air leaks with new WABCOSEAL® Angle Cocks



FOR FREIGHT CARS:

Wabco compression ring grips pipe when nut is tightened to provide tight seal and strong clamping action.

"O" ring seals the key effectively through a wide degree of key wear. This seal can be used on old angle cocks by properly reaming the bushing and inserting new key.



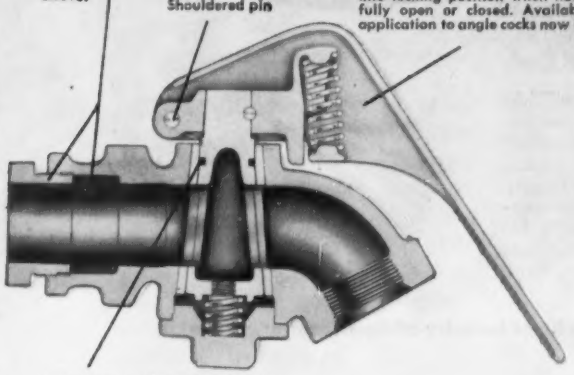
Brake pipe nipple length can fall anywhere within this range and still be perfectly sealed. Threaded nipple is not necessary but can be used if more convenient.

FOR PASSENGER CARS AND LOCOMOTIVES:

New Wabcoseal fitting is same as for freight car angle cock shown above.

Shouldered pin

Strong spring is compressed when handle is raised. Socket is snapped into locking position when handle is fully open or closed. Available for application to angle cocks now in use.



Sealed key is identical to freight car angle cock key shown above.

DON'T tolerate a high air leakage rate on your trains. Use the new Wabcoseal Angle Cocks for tighter seals.

The sealed key is new, with an "O" ring seal that stays tight through a wide range of key wear.

The brake pipe connection is new. A rugged Wabco compression ring replaces the old tapped thread. Tolerance for length of pipe nipple is now provided.

The spring-locking handle is new for passenger cars and locomotives. When the handle is removed to fully open or closed position a strong spring snaps the socket into locked position and keeps it there. A shouldered pin provides proper freedom of handle movement.

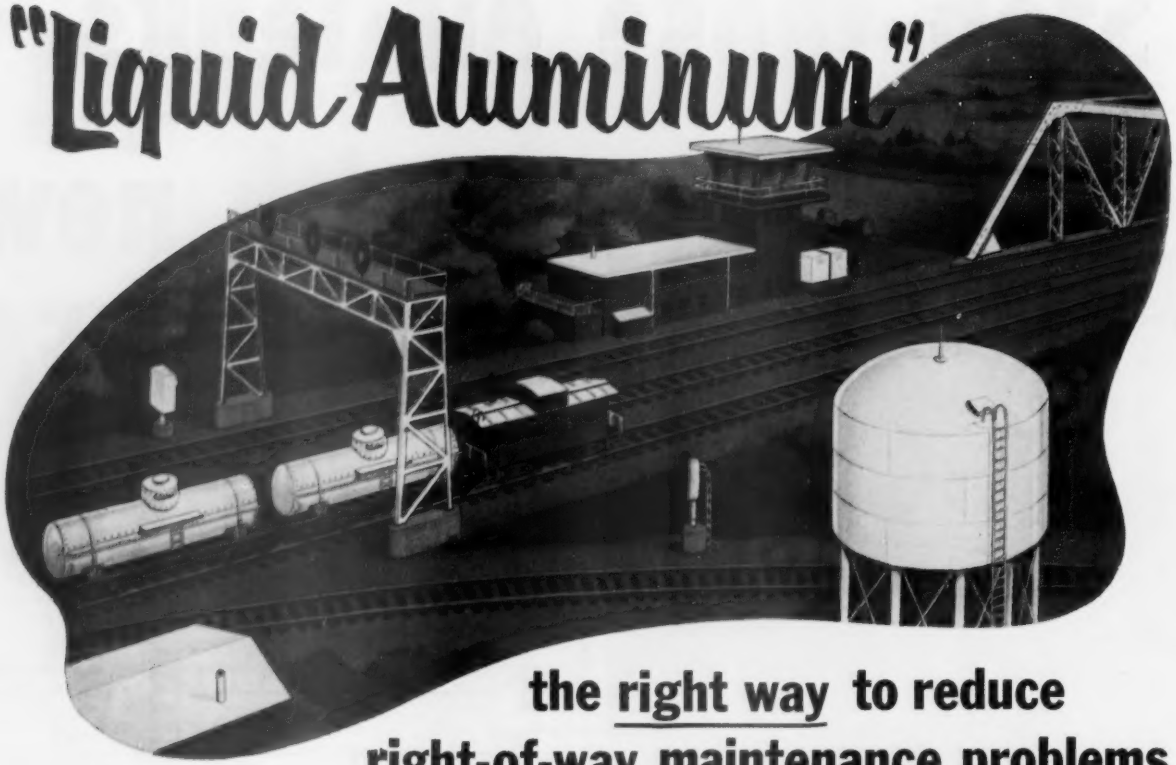
The sealed key and spring-locking handle are available for application to present angle cocks. See your Westinghouse Air Brake representative for more information.

Westinghouse Air Brake
COMPANY

AIR BRAKE DIVISION WILMERDING, PA.

NEW MOVIE AVAILABLE entitled, *"AT THIS MOMENT"*—showing a vivid story of modern railroad progress. Length 26 minutes, on 16 mm. color sound film. For use of film write: United World Films, Inc., 1445 Park Ave., New York or Association Films, Inc., 347 Madison Ave., New York.

"Liquid Aluminum"



the right way to reduce right-of-way maintenance problems

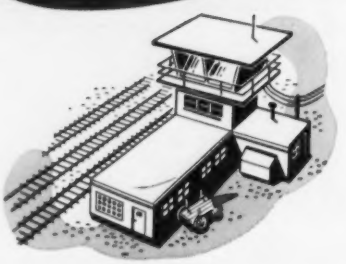
Liquid Aluminum keeps right-of-ways in top condition, cutting maintenance costs and costly equipment replacement at the same time. *Liquid Aluminum* is amazingly resistant to ruinous rust . . . resists corrosion from smoke and fumes, too. And almost equally important, sparkling *Liquid Aluminum* beautifies the buildings and equipment it protects.

Put *Liquid Aluminum* to work on your rolling stock, signaling and communication equipment and installations, bridges, tanks, towers, buildings and other railway structures and equipment. It's the efficient, economical, easy way —the right way—to reduce maintenance problems along your right-of-way.

Look for the *Liquid Aluminum* foil label on the aluminum paint you choose. It's made to approved minimum standards that have been adopted by the many paint manufacturers who make *Liquid Aluminum*. These standards assure you of the best combination of elasticity and durability for longest life on most painting applications. Ask your paint supplier or write for the names of manufacturers to Reynolds Metals Company, 2500 South Third Street, Louisville 1, Ky.

One-Coat Protection For Your Built-Up or Rustable Metal Roofs

Liquid Aluminum with asphalt will add years to roof life. The aluminum reflects harmful sun rays to protect asphalt base against deterioration. The *Liquid Aluminum* label and special Warranty Seal are your assurance of the best combination of elasticity and durability for extra roof protection . . . on buildings and on passenger and freight cars. Write for folder.



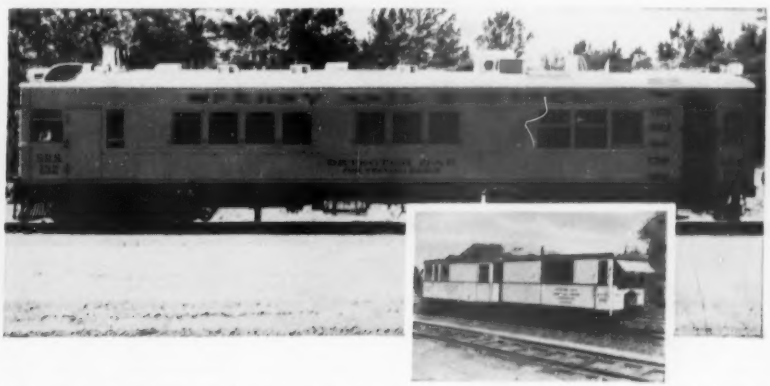
This advertisement appears in the interest of the Paint Industry of America

ATLANTIC COAST LINE Keeps Defects Small, Costs Low with Sperry Rail Service

"We make sure of sound rails by testing certain segments of track with a Sperry Detector Car as many as three or more times annually," comments Mr. Groover. Fast, modern service that paces competition, typified by ACL's *Champion*, demands sound rail in track. Sperry Rail Service has played an important part in building up the outstanding safety record achieved by Atlantic Coast Lines in recent years.

"We try to locate transverse defects while they are small, before rapid or sudden growth has started," says Mr. R. L. Groover, Chief Engineer, Atlantic Coast Line. "Sperry test results speak for themselves. During 1953, 92% of the transverse defects located were small (0% – 20%)."

"Sperry coordinates the needs of the railroads in our area and, working with all of us, helps plan a group test," explains Mr. Groover. "This provides for proper testing frequency of all territories, and benefits all of us by eliminating expensive nonproductive time."



Sperry Rail Service on the Atlantic Coast Line dates back to 1930 when the early Type A Double Unit Detector Car (inset) was new. Modern testing equipment, like Detector Car No. 132 with its thoroughly trained crew, is a vital part of controlled rail maintenance so necessary under today's highly competitive demands for greater speeds and heavier loads.

Sperry Rail Service is pledged to anticipate modern rail inspection requirements . . . with the most advanced equipment continuing research and engineering can provide . . . with the service and understanding of your needs which only experience can assure. Your inquiry concerning any rail-testing problem or other application of nondestructive testing will receive prompt and considered attention.

FIRST IN RAIL TESTING

SPERRY RAIL SERVICE

Division of Sperry Products, Inc.

Danbury, Conn.

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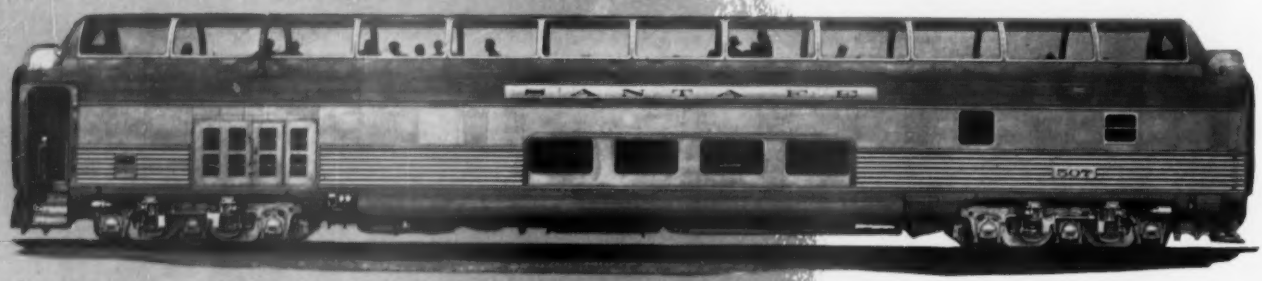
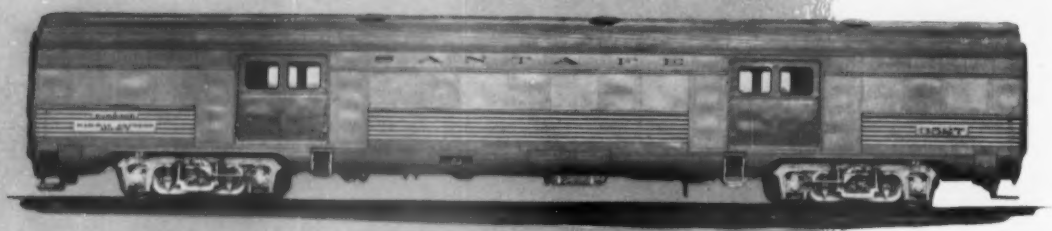
on the MODERN SANTA FE...



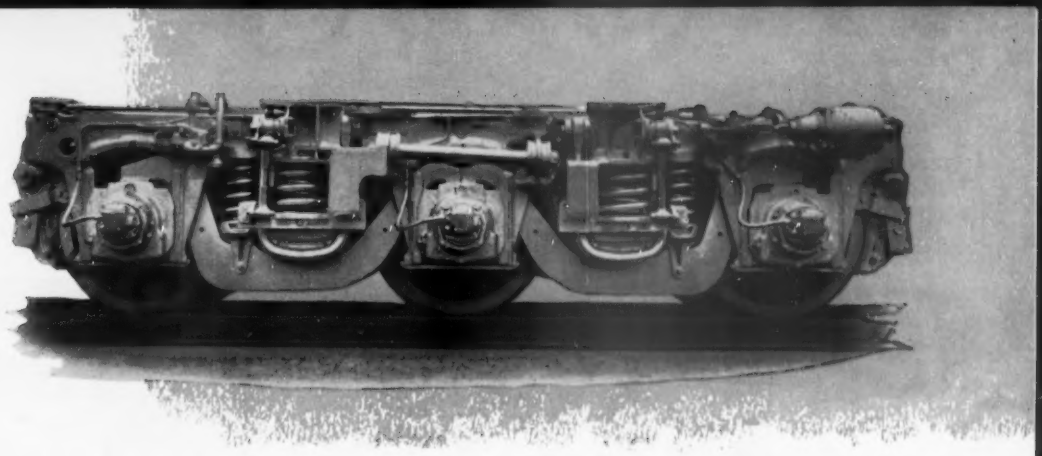
The full length Dome Car with 6-Wheel Outside Swing Hanger Type Trucks.

Built by Budd

with 4-Wheel Outside Swing Hanger Type Trucks.

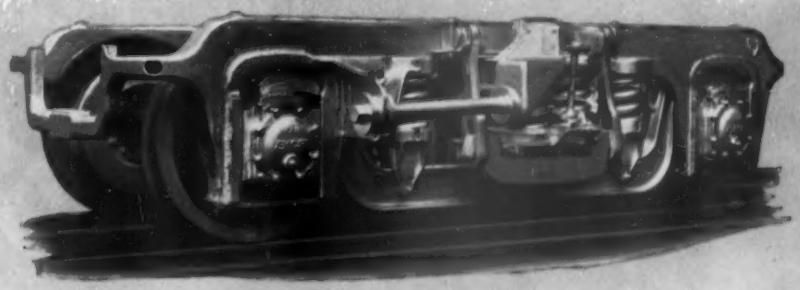


GENERAL



Commonwealth 6-Wheel Outside Swing Hanger Truck with Central Bearing.

Commonwealth Outside Swing Hanger Type Trucks and Central Bearings



Commonwealth 4-Wheel Outside Swing Hanger Truck with Central Bearing.

Dome cars, chair cars and baggage cars, built by The Budd Company for service in the Santa Fe Railway's new *San Francisco Chief*, *El Capitan*, *Chicagoan*, and *Kansas Cityan*, feature newest COMMONWEALTH Trucks with *Outside Swing Hanger Suspension* and *Central Bearings*. Of the most modern design, the dome cars and chair cars provide every passenger convenience, smooth, quiet riding and true travel luxury.

COMMONWEALTH Trucks with Outside Swing Hanger and Spring Suspension assure better riding at all speeds with reduced car body roll. Swing hangers and bolster springs are on the outside of the truck, readily accessible for inspection. The Central Bearing eliminates truck shimmy, increases wheel mileage and requires no lubrication.

These latest design trucks assure improved travel comfort and substantially reduced upkeep costs. Order them to improve the riding of *your* present cars and specify them for new equipment.

STEEL CASTINGS

GRANITE CITY, ILL. EDDYSTONE, PA.

CELEBRATING THE RAILROAD INDUSTRY'S PROGRESS

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✓ TRAVEL BY RAIL

SHELL TALONA R OIL 40

Fastest growing railway diesel lubricant in the U.S.A.

IN THE TWO YEARS SHELL TALONA R OIL 40 HAS BEEN AVAILABLE, THE VOLUME OF SHELL'S RAILWAY LUBRICANT BUSINESS HAS INCREASED 81%

One Big reason!

ENGINE WEAR

CUT ONE-THIRD

THROUGHOUT the railroad industry Shell Talona R Oil 40 is setting a new standard of anti-wear performance never before achieved or thought possible.

A recent survey on railroads shows that costs for engine cylinder maintenance are reduced considerably when Shell Talona R Oil 40 is used. The average saving was more than one third.

Manufactured from premium base oil plus compatible additives, Shell Talona R Oil 40 offers railroad operators these outstanding advantages:

1. **Superior anti-wear protection**
2. **Excellent detergent-dispersant action**
3. **Outstanding oxidation stability**
4. **Maximum engine performance**

In all types of railroad diesels Shell Talona R Oil 40 is the answer to reduced maintenance costs. See the Shell Railroad Service Engineer for additional details.

SHELL OIL COMPANY

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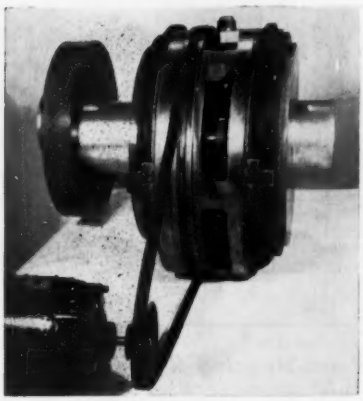
What's New in Products



Portable Crankshaft Grinder

A portable crankshaft grinding machine that will handle journal sizes used on standard locomotives with the crankshaft in place in the crankcase is available from Metco, Inc., 733 Egleston avenue, Kalamazoo, Mich. The machine can be mounted on a crankpin journal within the crankcase through the inspection openings without removing any part of the engine except the inspection covers and the connecting rods and piston from the crankpin to be reground.

The grinding machine is built in two half sections that bolt together. One half-section has a gear reducing unit to revolve the machine around the crankpin journal. The other contains the grinding mechanism and feeds—one to feed grinding wheels into the work and to adjust for different crankpin diameters and one to move the grinding wheels from end to end of the journal.

Both half sections when bolted together are driven by a single v-belt from a 1½-hp motor on either side of the crankcase. The grinding machine revolves on self-centering adapters at each end of the crankpin journal. The machine will grind journals from 6 to 8½ in. in diameter and up to 6 in. long. The machine weighs approximately 150 lb, the centering device about 50 lb •

Portable Power Plants

Light weight, for easy portability, has been stressed in the design of two engine-generators announced by the Wincharger Corporation, Sioux City, Iowa. Model F2500 delivers d-c power, has an output of 2,500 watts. Model F3000 develops a-c power and has a continuous rating of 2,000 watts. Each type weighs 148 lb.

The light weight of the units has been achieved partly through the use of an aluminum base and aluminum guard, and also by redesigning to obtain greater compactness. Wisconsin AKN and Briggs & Stratton No. 14 engines are supplied with these units •

Linen Iron-on Tape

"Lifetime Linen Tape," a white iron-on mending tape, is said to provide a smooth, permanent mend for tears, rips and holes in sheets, pillow cases, and all other white goods. The manufacturer claims that the tape, guaranteed laundry-proof, will last the lifetime of the linen; that its laboratory-tested adhesive backing will adhere permanently to all linens; that the finished patch leaves no frayed edges to rip again; and that it has no ridges, seams or stiffness to irritate the skin.

The tape is available in 50-yd rolls, 1 in. and 1½ in. wide. It is produced by the Hughes Company, 10 East 39th st., New York 16 •

Chargers for Edison Batteries

The Lincoln Electric Company, Cleveland, Ohio, has announced a line of battery chargers for nickel-iron-alkaline batteries. Three models cover charging requirements for batteries of 10 to 42 cells. Model S9640 is for batteries of 10 to 15 cells used with walkie-type trucks. Model S6088 is for 10- to 30-cell batteries for heavy-duty trucks of either walkie or rider type. Model S9607 charges nickel-iron-alkaline batteries with 21 to 42 cells.

The machines are said to give a constant charge as recommended by Edison. The correct charging rate for any battery is set with a single charging current control. The only other control required for operation is the time control. This automatically starts the unit, connects the battery to charging circuit and stops the unit when the battery is fully charged. A completely discharged battery can be brought up to full charge in seven hours.

Batteries are fully protected during the charging cycle as recommended by the Industrial Truck Association. In the event of power supply failure during charging, the unit is disconnected from the power line, and the charging circuit is opened. Charging automatically restarts with the resumption of power supply.

The chargers are motor generators

More New Products

of compact design and welded steel construction. Models S-9640 and S-6088 have a vertically mounted armature, the upright design requiring only 3½ sq ft of floor space. Model S9607 is a horizontal machine. Construction is drip-proof and all electrical and rotating parts are enclosed. The motor rotor, generator and exciter are mounted on a single large shaft, dynamically balanced and mounted on two large bearings •

Nobrush 400-Cycle Converter

Compact horizontal frequency changers made by the Georator Corporation, Manassas, Va., convert 60 to 400 cycles. The units have two bearings and consist of an induction motor, direct-coupled to a Nobrush 400-cycle generator. High efficiency, low heating, freedom from radio interference and practically total elimination of maintenance are claimed.

The sets are resistant to moisture and grit, and are said to withstand short circuits without injury.

Outputs available in this design range from 100 va to 1½ kva, single phase, and 150 va to 3 kva, three phase •

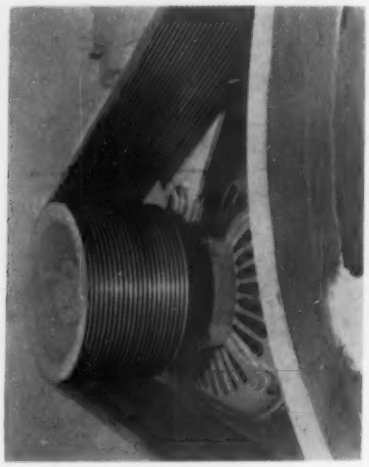
Nickel-Cadium Emergency Light

The Nickel Cadmium Battery Corporation, Easthampton, Mass., has announced a Nicad emergency lighting unit, designed to provide an auxiliary six-volt light source which will come on automatically when the normal a-c supply fails. Power is then supplied by a Nicad steel-encased, alkaline storage battery.

Mounted on top of the unit are two six-volt lamp heads and reflectors. Front panel mounting includes a high-rate charge timer that can be set from 0 to 12 hours, an amber neon readiness light, a red neon high rate light, a six-volt light switch and a push button test switch.

An easily removable subassembly carries the transformer, rectifier, cut-over relay, timer, trickle-charge resistor and all other components.

The circuit is designed to maintain the battery on trickle-charge, and to permit recharging the battery within 12 hours. The duration of the high rate charge is set by the timer •



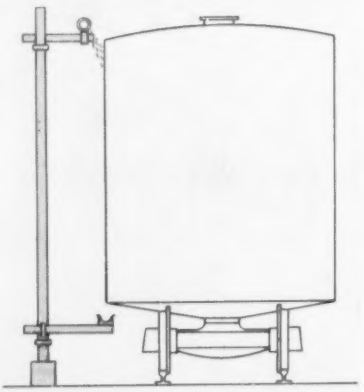
Single-Piece Multiple V Belt

Poly-V Drive power transmission has been introduced by the Manhattan Rubber Division of Raybestos-Manhattan, Inc., Passaic, N. J. The Poly-V belt, is a single, endless rubber belt with a series of parallel V ribs molded lengthwise around the inside circumference.

It has uninterrupted high-strength synthetic cords across its entire width.

The Poly-V sheave grooves are designed to mate precisely with the belt ribs, and since the belt covers the full width of the drive member, the load is distributed equally over the entire driving surface. The manufacturer states that this provides twice the contact area of a comparable multiple V-belt application, and that Poly-V drive will transmit up to 50 per cent greater horsepower with the same width, or equal horsepower with 1/3 less sheave width.

The drive is also said to reduce face pressure one-half, giving long life to belt and sheaves. Another feature is that the belt cannot turn over. Poly-V belt is available in two sizes to meet all drive requirements from 3-in. pitch diameter sheaves and 50-in. belt pitch lengths upward •



Paint-Stripping Rack

Cost and time of stripping old paint from freight cars, passenger cars and locomotives are said to be sharply reduced with the help of a paint-stripping rack developed by the Pennsylvania Salt Manufacturing Company, 1000 Widener Building, Philadelphia 7. The rack, designed in cooperation with the mechanical department of a large eastern railroad, also is said to save paint-stripping solution by returning runoff to the solution tank for recirculation, and can be made up by railroad labor forces from readily available shop materials. Schematic blueprints of the device are obtainable from Pennsylvania Salt's maintenance chemicals department •

Erasable Paper

The Hemlock Paper & Envelope Co., Box 86, Bayonne, N.J., is marketing a rag-content paper claimed to be almost entirely erasable in quality; an ordinary pencil eraser can be applied to rub out any typing error. This Hemlock Erasable Paper is made up in popular weights and sizes, in white only.

It can be printed the same as ordinary papers and is fully acceptable for legal work •

Steel Lockers

A new line of "Modern Flow" steel lockers featuring a new sliding channel said to save 83% of assembly time has been introduced by the Equipto Division of Aurora Equipment Company, Aurora, Ill. Angle reinforced doors have 4-point latching mechanisms and locking attachments said to make them completely pilfer-proof. The lockers are available in single- and double-tier types in all standard sizes •

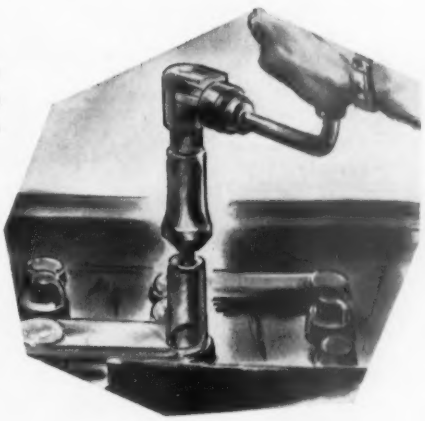
"DO IT YOURSELF" MAINTENANCE TIPS
from the GOULD Plus-Performance Plan

HERE'S MONEY-SAVING MAINTENANCE TIP #1

Accidental damage in even the best regulated operations can put a cell out of commission. Here's a tip from the Gould Plus Performance Plan on how to easily remove and repair a cell.

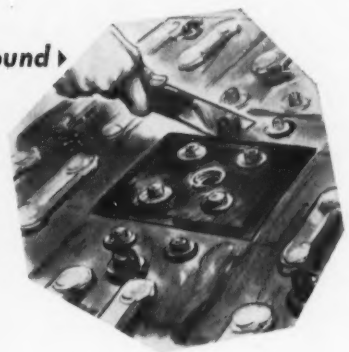
1. *Remove Connectors* ▸

We recommend using a special drill (Gould Part No. 35459C) which allows the cell post to remain by cutting the bond to the lead insert of the cover.



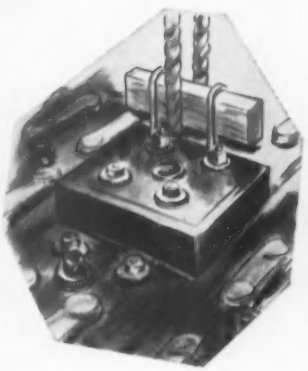
2. *Remove Compound* ▸

from between jar to be removed and adjacent cells. Use a warm compound knife for this purpose. Pour a little penetrating oil or kerosene mixed with regular oil into space between cells for lubricant.



3. *Pull the Cell* ▸

The best way is to screw a Gould Cell Puller (Part Number 77061) to the negative post remaining after drilling in No. 1. Then attach hoist and lift. If a cell has two negative posts, use two cell pullers, attaching the hoist to a piece of wood placed through the cell puller loops.



GOULD Batteries

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TRENTON 7, N. J.

For Railroad Air Conditioning and Lighting | For Mine Shuttle Cars and Locomotives | For Electric Industrial Trucks | For Diesel Locomotive Starting | For Standby and Emergency Power

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This is only one example of the many helpful service tips contained in the Gould Plus-Performance Plan. For the complete set of published information on battery service and maintenance mail the coupon TODAY.

BATTERY INFORMATION HEADQUARTERS
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Please send me, without charge or obligation, the Gould Plus-Performance Plan for _____ batteries.
(type or types)

Name_____

Firm_____

Address_____

City_____ Zone_____ State_____

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For minor or major repairs, GATX tank cars have their own "hospitals." More than 30 General American car repair shops are located throughout the country, so that no car is ever more than a few hours away from professional tank car maintenance. These shops have experts to service the 200-plus different types of GATX tank cars. They have the necessary tools, jigs and fixtures; the testing equipment; and parts inventories. All work can be done under A.A.R. and I.C.C. specifications.

When it comes to keeping the 47,000 cars in the GATX tank car fleet rolling, General American's car repair shops work with the engineering and traffic departments to give shippers more dependable service for transporting liquids in bulk.

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Learning to Live With Socialism

This paper has reluctantly come to the conclusion that revival of respect for the principles of free enterprise is unlikely to occur, in this country, soon enough to rescue the railroads from their present troubles. The St. Lawrence Seaway—with even "Taft Republicans" favoring it—measures the degree to which socialism is in the ascendant. If this conclusion is correct, then those who intend to keep on fighting for economic freedom (as we do) had better take due account of the fact that, since their taxes are paying the costs of increasing socialism, their refusal to seek or accept any of the "benefits" that socialistic ventures pass around just makes the socialist trend doubly expensive to them, while not retarding the trend in the slightest degree. The position of anti-socialists who refuse to accept any socialistic largess is laudable—but, practically speaking, is it not a course which is the very opposite of effective opposition to socialism? What it certainly does do is to improverish the enemies of socialism more than the rest of the community, hence reducing the effectiveness of their opposition.

Take, for instance, an anti-socialist farmer who refuses to accept "soil conservation" and other government payments. Does he thereby retard or discourage such practices? Of course, he does not. He is taxed, regardless of whether he gets any "farm aid" or not. If he accepts it, he may consider the payments he gets as a return of a part of his taxes. The net cost of federal socialism to him is, thus, his tax bill *minus* his "farm aid." Surely the cause of anti-socialism is not helped much if anti-socialists voluntarily make the net cost of socialism to them higher than it need be.

There is a famous figure in literature who further illustrates this point—Don Quixote. This famous caballero tried to conduct himself according to the code of chivalry—several centuries after that code had passed into oblivion. Don Quixote denied himself the advantages he might have gained by being less chivalrous in the rowdy environment in which he actually lived. At the same time, the social conditions of his times did not accord to him the perquisites (such, for instance, as free board) formerly conceded to wandering knights. Thus the good Don suffered all the restrictions, both of the age of chivalry and that of 16th century Spain, and gained none of the advantages that either period offered.

To live, a man or a business must adjust themselves to their environment—and such adjustment does not preclude their continuing effort to change that environment. For instance, it is not the belief of this publication that the owners of the Long Island Rail Road, by negotiating a large remission of taxes with the state of New York—which they hope will permit the property to continue in private ownership—have thereby strengthened the principles of socialism, but rather the reverse. If the proprietors had succeeded in getting an even larger tax remission, or even an outright state contribution to operating expenses, they still would not, in our opinion, have been fostering socialism, but would have been combating it—considering the surroundings of almost complete socialism of transportation that encompass all commuter-carrying railroads. Such services cannot live in the midst of other subsidized transportation, unless they too are subsidized by somebody—and it is fairer that they be subsidized by the state (which is responsible for their troubles) than by railroad owners or by patrons of the railroads who are already paying the full costs of their service.

It is necessary for friends of economic liberty to stay alive and solvent, if they can, while they do what they can to advance the cause in which they believe. We would not advocate active effort by the railroads to feed at the public trough. Nevertheless, is it not more important, practically speaking, that railroads should achieve substantial equality of competition with other forms of transportation than that they should abstain from any participation in the governmental largess which other types of transportation—and most other industry—accept and even demand?

When the oil and steel industries refuse to operate tows on toll-free rivers; when the great power-using industries refuse to purchase government-produced power; and when commercial users of the long-haul highways insist on paying full costs (plus property taxes) of those highways—it will then become practicable, and not just laudable, for the railroads to abstain as completely as they have from willingness to accept any degree of partnership with the public treasury. To prosper, or even to live, as private enterprise, the railroads must have competitive equality. If they cannot get such equality on their own terms, they would, perhaps, be well advised to accept it on the best alternative terms that they can get.

OLD STRUCTURE at Oakford was typical of stations that had seen 60 to 70 years of service on the C&IM.

Old Stations Replaced With . . .

NEW BUILDING at Forest City is representative of those built to accommodate operator-agents and lcl handling.

. . . Modern, Compact Buildings

Program on the C&IM, tentatively scheduled to involve eight locations, is calculated to produce economies, better community relations and better working conditions

Up and down the line of the Chicago & Illinois Midland the old-fashioned frame structures that have long served as combination passenger and freight stations are giving way to trim, attractive and modern structures. From this program of station modernization, the railroad figures it is realizing important benefits. For one thing, it is estimated that in the long run the buildings will actually cost less than would have been required to keep the

old structures in service. For another, it is felt that the up-to-date appearance of the new buildings makes a favorable impression on the public.

The program to replace old stations with modern structures started in 1953 when three of the new buildings were constructed. Three more are on the program to be built next year. The new structures are relatively small, the estimated average cost of construction per unit being approximately $10,000, but the design, realizing efficient use of space, gives full consideration to present-day needs as well as providing attractive, pleasant surroundings for the operator-agents.

The C&IM, which depends largely on coal traffic for its revenues, is a central Illinois line shaped somewhat like an inverted capital T. The "main stem" extends from Peoria on the north down through Havana and Springfield to a point known as Cimic. This portion of the road is about 100 miles long. The cross of the T consists of a line from Taylorville, on the east, through Cimic to Compro, and is about 28 miles long. Originally, the railroad handled a fair amount of passenger business, but a steady decline led the company to discontinue its last passenger train in May 1953.

What to Do About Old Stations

In the absence of further need for passenger-handling facilities, the railroad was then faced with the problem of what to do with its old passenger stations. These structures had been built 60 to 70 years ago and contained facilities for handling lcl traffic as well as passengers. With the discontinuance of passenger service, space was needed only for handling lcl and for the accommodation of the operator-agents. Also, it was apparent that the freight rooms of the old stations had capacity for a far greater volume of lcl than had been moving on the railroad for a number of years.

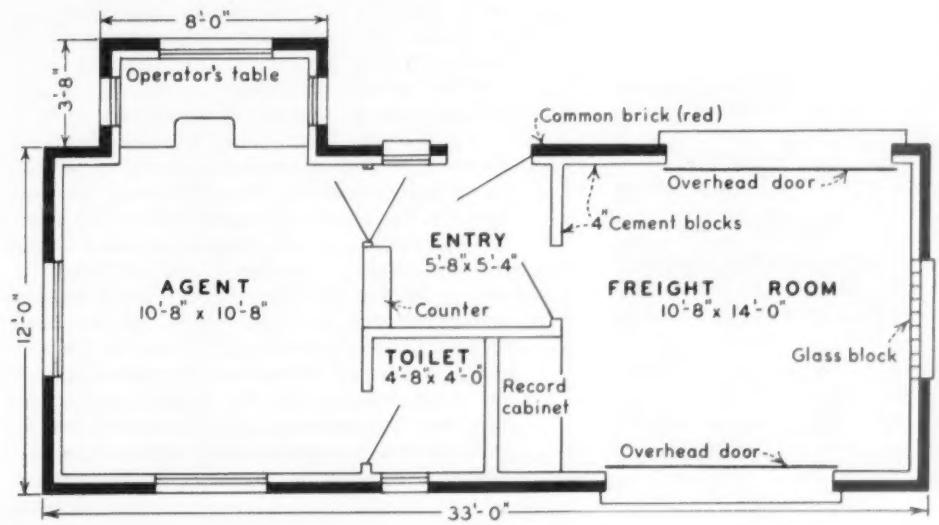
These circumstances led the railroad to careful consideration of this question: Would it be more economical to keep the old stations in service or to replace them with modern structures of a size more in keeping with the space requirements? The buildings had last been reconditioned in 1926 and 1927. If they were to be kept in service the roofs would have to be replaced and the structures generally reconditioned. One of the maintenance problems was that the foundations of all but one of them consisted of wood blocking subject to more or less rapid deterioration due to decay. At the time the buildings were reconditioned in 1926-7 the foundation blocking was renewed with untreated materials which had since been replaced with second-hand treated material. By 1953 the foundation blocking was again in need of renewal.

The Decision: Replace Them

It was decided that, on the basis of economy alone, the railroad would benefit by a program involving replacement of the old station buildings with new, smaller structures. Previously, a new building meeting specific local requirements had been built at Ellis, Ill., to serve the freight traffic originating at a new mine, and it was decided to use the exterior design of the Ellis building as standard for the other new structures. The projected program called for construction of new stations at Manito, Kilbourne and Oakford in 1953, and at Petersburg and Athens in 1955.

The construction consists of concrete foundations and floors, cement-block walls faced on the exterior with brick, wood roof joists, and tar-and-gravel roofs placed over 2 in. of Fiberglas insulation laid on the tongue-and-groove sheathing. The brick walls are extended to form parapets topped with glazed-tile copings. For decorative purposes two courses of concrete brick are placed in the exterior walls at the base of the parapet, these courses forming a light-colored band entirely around the building. Another decorative feature is a panel of glass blocks in the wall at the freight-room end. Fastened to the wall at each end of the building is a station sign with black letters on a white background.

The freight rooms of the stations have plain concrete floors and their ceilings are not finished, but in the operator-agent's offices the floors are of asphalt tile, with a black cove base. The cement-block walls are painted a light green and the ceilings are finished with acoustical tile. All windows are fitted with venetian blinds with



FLOOR PLANS of all the new buildings are essentially the same. The space provided is considered ample for present-day needs.

OPERATOR-AGENTS now have surroundings that afford a pleasant contrast with those provided in the past.

GLASS-BLOCK window in freight room adds decorative note. Stacked against building is inbound lcl shipment.

DISMANTLING of old stations is done by local contractors at no cost to railroad.

aluminum slats. Both the operator's table and the counter are finished on the top with battleship linoleum in a dark green color, edged with chromium. In each structure the freight room has a built-in cabinet with shelves for storing records. The buildings are each heated by automatic-controlled oil-fired circulator-type heating units. Fluorescent lighting fixtures are used.

Where the new structures have been built the old stations have been dismantled. This dismantling work has been done under contract by local individuals at no cost to the railroad, or with the railroad even realizing a profit from the sale of the materials.

The program for constructing the new stations is being carried out under the general supervision of N. E. Peterson, chief engineer of the C&IM. The structures have been designed and constructed, under contract, under the direct supervision of Andrew Bourgasser, supervisor of bridges and buildings.

Benchmarks and Yardsticks

PROBABLY NO HUMAN FACULTY is more needed on the railroads, today, than a lively imagination. The country is growing at an accelerated rate—in production as well as population—but the railroads are not keeping pace. Nevertheless, there is no built-in characteristic about railroading that makes this so. Readjustment of the country's traffic pattern to give place to greatly increased motor and air transportation, of course, partly explains what has happened to railroad traffic—but only partly. The main trouble lies in "time-lag" (enforced by adverse legislation) in the railroads' adaptation to changes in their environment.

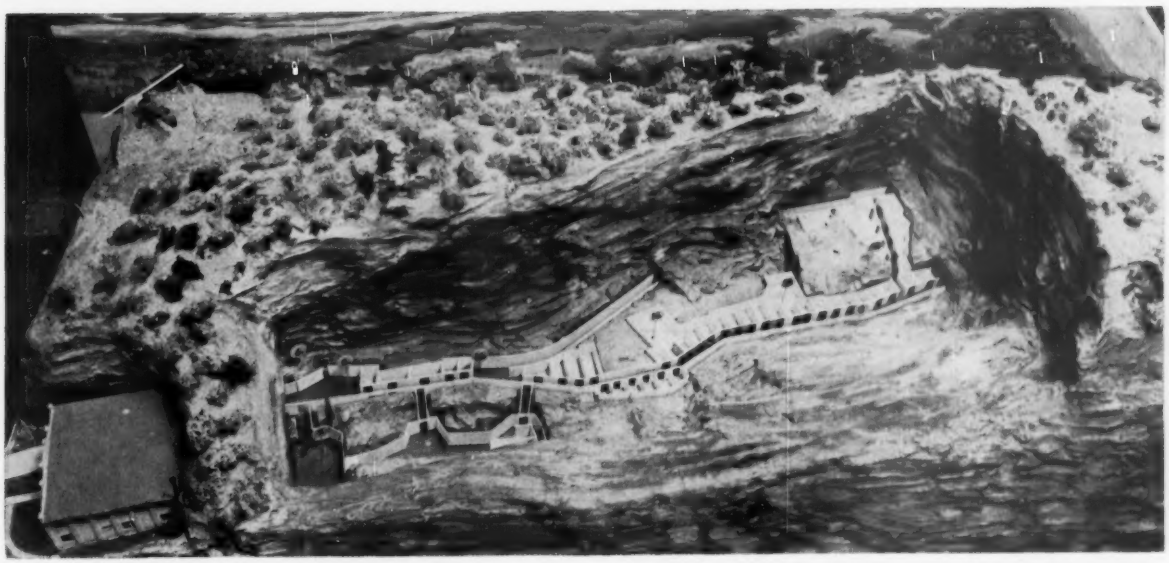
Some 14 years ago at the New York World's Fair, General Motors had an exhibit—"Futurama," we believe they called it—which showed a topographic model of the country overlaid with the best highways that imaginative engineers could conceive of. A lot of people doubtless believed that such castles in the air were a waste of time and money—but the things now happening in highway development show that pipe-dreaming can be profitable. The public practically always responds positively to daring innovation.

If all the railroads of this country could be as modern as the most modern parts of the best of them, railroad costs and service would undoubtedly be much more attractive for competitive traffic than they now are. If public interest were aroused in the advantages of thoroughly up-to-date railroads—as public popularity of modern highways has been achieved—the sequel could well be the same for the railroads.

One of the country's most successful publishers, several decades ago, hired a capable assistant at a substantial salary and gave him as his only assignment the duty to sit in his office and think. The report is that the investment was a profitable one.

When rapid adaptation to greatly changed circumstances is as much of a challenge as it is to the railroads today, heavy thinking about the direction of such adaptation ought to be getting top priority—thinking not only about physical facilities, but about pricing and service and internal organization as well. Adaptation comes harder for the railroads than for almost any other industry, because so many railroad practices of a half-century ago have been frozen into the regulatory statutes and tradition. It is harder for railroads to shake off old patterns of action than it is for other industry. All the more reason, then, why the circumstances call for extra effort by railroad men to exercise their creative imagination.

J. G. L.



THESE BOMB-PROOF IRON MOUNTAIN VAULTS can now be used for private storage of valuables and documents.

REA Offers Bomb-Proof Storage

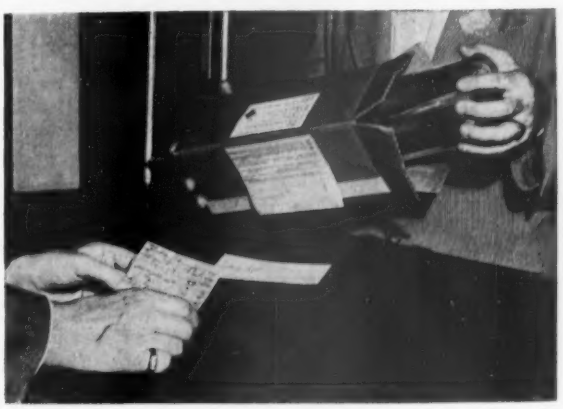
Positive protection of important business or personal papers, documents and valuables "from atomic blasts or any other destructive force known to man," will be made widely available by the Railway Express Agency, if tests now under way prove successful.

The new service provides for storage of individual, sealed metal containers in what REA describes as "the safest place in the world"—the Iron Mountain Atomic Storage Vaults, near Hudson, N. Y., 125 miles north of New York City. The containers will be stored there in air conditioned, humidity controlled vaults built into the tunnels of a former iron mine. Only access to these vaults is through a 28-ton master door, said to be heavier than that on the gold vault at Fort Knox, Ky., and watched by armed guards on duty 24 hr a day.

A $10 initial charge for the combined REA-Iron Mountain service will entitle an individual user to a numbered metal cylinder, about 12 in. long by 4 in. in diameter; inscription of the user's signature on the inside of the cylinder cover; identification cards at a local express office and at the vaults; basic $50 valuation of contents; express transportation from the originating office to Hudson; and a year's receipted storage. The storage charge for each subsequent year is $5, and extra valuation charges are 18 cents per $100. Containers may be removed from the vaults at any time, and also restored, subject to nominal service and express charges.

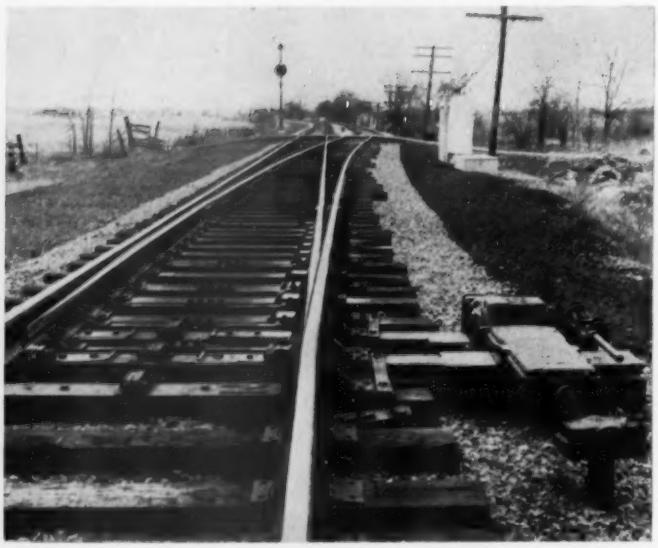
The new service is now being tested at four REA offices in New York City and Jamaica, N. Y.; in New Haven, Conn., and in Columbus, Ohio. If it meets with sufficient acceptance there, it will be extended wherever demand warrants, to meet what REA President A. L. Hammell describes as "the accelerated interest of individuals, institutions, business executives and professional people in finding a convenient, low-cost way of securing absolute protection of essential records, irreplaceable papers and valuables of all sorts."

INDIVIDUAL METAL CONTAINERS, 12 in. by 4 in., will be sealed, identified, and . . .



TRANSPORTED, under hand-to-hand signature, from any participating REA office.

COLOR-POSITION-LIGHT signals direct trains to go through turnouts at their designed speeds.



POWER SWITCH MACHINES were installed at the ends of 10 sidings and at the ends of 10 miles of double track.

How CTC Moves B&O Trains Faster

Heavy coal and iron ore movements and 19 regularly scheduled trains, save time between Dayton and Lima, Ohio—Project includes 10 miles of double track signaled for movements in either direction

Reduced operating expenses and a considerable time savings in getting trains over the road are resulting from the installation of centralized traffic control on 52 miles of single track and 10 miles of double track on the B&O between Needmore Yard (North Dayton) and Erie Jct. (Lima), Ohio. This is part of the line from Cincinnati to Toledo where the B&O has facilities for unloading coal for lake shipment and loading iron ore from rail shipment.

Coal Moves North, Iron Ore South

The Dayton-Lima subdivision is part of a north-south trunk line from which other lines branch off to steel mills and coal fields. At Dayton, the Wellston subdivision leads off the north-south line to the east through Chillicothe to Portsmouth, Ohio, at which points connections are made with the Norfolk & Western, which delivers West Virginia coal to the B&O for shipment to Toledo. Northbound coal from Kentucky also is received at Cincinnati. The B&O receives iron ore at Toledo, and delivers it to steel mills at Middletown, Ohio, and Portsmouth. The Dayton-Lima section handles all these coal and ore movements, which are concentrated during the months of Great Lakes shipping, April to November. During 1953 this line handled almost 5,000,000 tons of coal and iron ore.

This line from Dayton to Lima is slightly rolling. Curvature and grades generally are too slight to affect speed restrictions. The maximum curvature is 4 deg near Troy, and the maximum grade is 0.68 percent near Botkins. Maximum permissible speeds for passenger and freight trains are 70 and 50 mph, respectively. The 19 scheduled trains include three passenger trains and one mail-express train each way daily, as well as seven merchandise trains, four northbound and three southbound, and two local switch runs each way daily. Coal and iron ore are usually moved by 2-unit diesel locomotives in extra trains of 100-150 cars, averaging 7,000 tons each. There may be as many as 20 such trains daily during the summer months of peak movements. Thus the traffic over the line varies from 19 up to 40 or 50 trains daily.

Train Operation Improved

Centralized traffic control has enabled the dispatcher to plan moves more effectively; make greater utilization of track capacity; and keep trains moving, particularly during periods of peak traffic. This has been especially important during the months of heavy coal and iron ore shipments.

Formerly train movements between Dayton and Lima were authorized by time-table and train orders, with absolute permissive block signaling. An absolute block with traffic was maintained between Piqua Jct. and Kirkwood, requiring cooperative action of operators to clear signals for train movements between stations. Hand-throwing switches were in service at the ends of passing sidings, requiring trains to stop when entering

and leaving the sidings. The Kirkwood-Swanders 10-mile double-track section was signaled for right-hand running only.

Coal and ore trains often had to "take siding" to allow regularly scheduled trains to pass. Meets between regularly scheduled trains occur five times daily on double-track sections of the line, and four times daily in single-track territory. Added to these regularly scheduled meets are those to be made with extra trains, which may add as many as 10 or more meets daily. Prior to installation of CTC, the dispatcher invariably had to side track coal trains for regularly scheduled trains. These meets resulted in considerable delay to the coal trains.

Now delays and stops have practically been eliminated because the dispatcher can control the switches and signals at passing tracks. Also, the 10-mile double-track section has been signaled for reverse running on either track, thereby enabling the dispatcher to run faster trains around slower ones in the same direction, without stopping either.

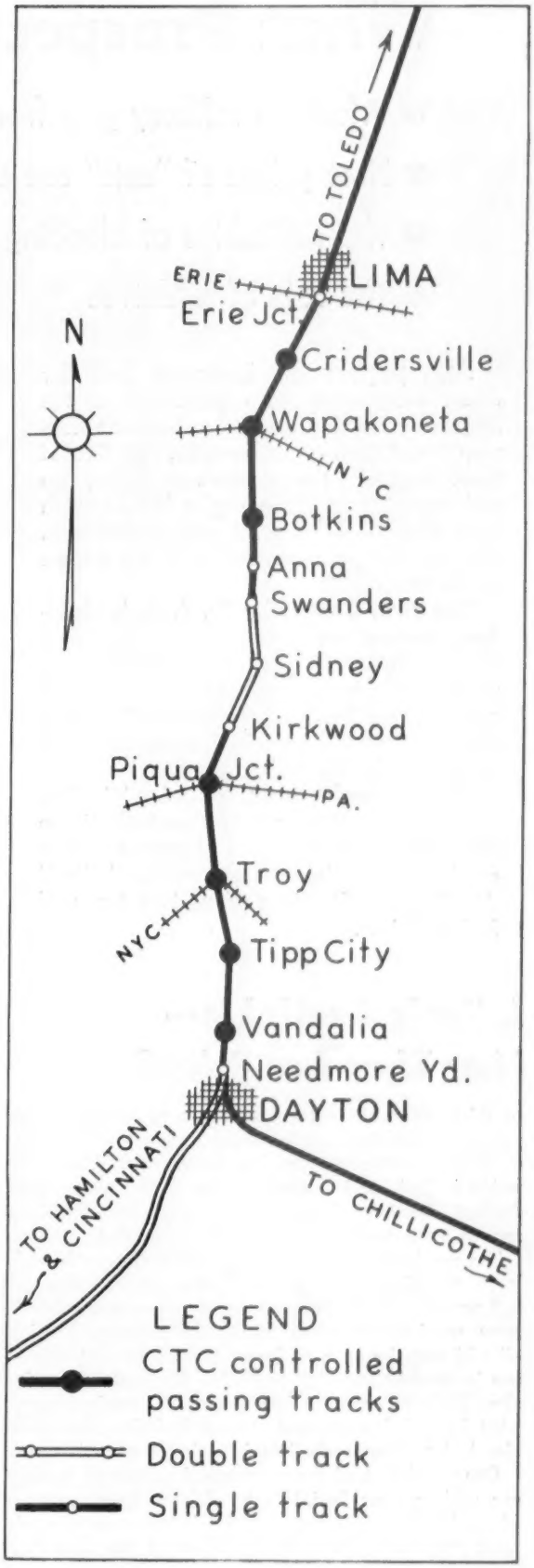
Important savings in time per train and gross ton-miles per hour of crew time have been made with the CTC. Regularly scheduled merchandise trains are being operated over the line in less time than was formerly required, and the movement of coal and iron ore trains is likewise faster.

Seven Sidings Removed

Seven sidings were taken out of service as passing tracks in conjunction with the CTC project. Four were removed completely; one each at Tipp City, Troy, Sidney and Anna. Three sidings were shortened to be used as storage tracks, being equipped with hand-thrown switch machines, electric locks and derails. One siding at North Dayton, at north end of Needmore Yard was extended, as was a siding at Troy; a total 4,112 ft of track being added in these extensions. A total of 29,267 ft of track was removed on this project. By signaling the 10 miles of double track for either direction running, the B&O was able to remove five passing tracks; two at Anna and one each at Swanders, Sidney and Kirkwood. The ten remaining sidings were equipped with power switch machines. At Vandalia and Piqua Jct., the double crossovers at the center of the passing tracks were also equipped with power switch machines. The sidings at Vandalia hold 172 and 196 cars, and at Piqua Jct., 145 and 142 cars, respectively. Other sidings and their capacities are: Tipp City, 124 cars; Troy, 148 cars; Botkins, 95 cars; Wapakoneta, 172 cars; and the Cridersville lap, 87 and 96 cars respectively. Thus the dispatcher has 10 sidings and 10 miles of double track in which to pass trains.

The CTC control machine is in the dispatcher's office in Dayton. The machine has the conventional track model diagram with indication lamps, levers for switches and signals, and a 24-pen train graph.

This centralized traffic control project was planned and constructed by B&O signal forces under the jurisdiction of the late A. S. Hunt, chief engineer, communications and signals, and under the direction of the late W. W. Welsh, signal engineer. The major items of signaling equipment were furnished by the General Railway Signal Company.



What Prospects Today for Lower-

- What the refinery gets from the barrel of crude
- How prices of "cuts" are determined
- The difficulties of blending
- The role of additives

Four papers on lower-cost fuel for diesel locomotives were presented at the August 10 meeting of the Southeastern Railway Diesel Club at Jacksonville, Fla. Two of these dealt with the materials available, two with experiments of the engine builders with fuels other than railroad specification oils. This article is a condensation of the papers in the first group.

The first paper, by Dr. F. A. L. Holloway, general superintendent of the Baton Rouge refinery of Esso Standard Oil Company, outlines the refinery processes and explains how flexible is the proportioning of the "cuts" of the barrel of crude to match the market for the end products.

The second paper, by John W. Ryznar, technical director of National Aluminate Corporation, tells what happens when cracked and straight-run oils are blended and describes the functions of various types of fuel additives.

I. Fuels Available— How They Are Priced

In thirty years the amount of crude processed by the petroleum industry has increased almost six-fold. Production of motor gasoline has increased 740%, while residual fuel and asphalt have little more than doubled. Distillate fuels have grown from essentially zero to a substantial percentage of the market.

The requirements for various products also go through large annual seasonal cycles. Motor gasoline demand will vary by almost 30% of the annual average. Maximum requirements come during the summer. Heating oil will vary by an even larger percentage, but also is low in summer and high in winter. Residual fuel varies also. While refiners can iron out the fluctuations somewhat by building seasonal storage facilities, they have also had to become flexible in refinery operation.

One small part of the petroleum industry or another can achieve some flexibility by shifting from one type of crude oil to another, but the industry as a whole must use the crude available. Most of the industry's ability to change products to meet demands has been achieved by developing flexible refinery processes.

In the refineries, crude oil is first separated by distillation; that is, divided into fractions or "cuts" that boil at different temperatures. A graph shows how a simulated oil might be separated into six basic cuts by distillation. This is not an actual crude, but it matches in composition the average crude processed in the Gulf and East Coast areas. The many different crudes that make up this "average" crude have widely varying percentage yields of each distillation "cut" and widely varying properties for each "cut."

Refinery Processes Are Flexible

While this "average" crude yields 25.6% gasoline, sales requirements for this area call for 43.5% gasoline. Obviously, refinery processes are required not only for changing such qualities as the sulphur content of the basic cuts, but also for altering the boiling range itself.

Adjustment of the boiling range of the cuts is accomplished principally by a process called "cracking." The original cracking operation, thermal cracking, was introduced on a large scale during the twenties and early thirties. It increased the quantity of gasoline and it was of fairly high quality.

Within the past two decades, a new and more flexible process has been developed—"catalytic cracking." The process has proved to be much superior to thermal cracking. It produces a much higher gasoline quality, much less residual fuel, and more light distillate fuel than thermal cracking. The "fluid" catalytic cracking process developed by Esso Standard Oil handles heavy distillate extremely well. The process has enabled the petroleum industry to realize a major increase in motor gasoline and distillate fuel yields at the expense of residual fuel.

For the purpose of this discussion, "distillate fuel," means all fuels between kerosene and residual fuel; that is, heating oil, all diesel fuels, trade gas oils, etc., not including any of the unvaporized residue from distilling crude. "Light" distillate fuels are those having a final boiling point in the range of 600-700 deg F. "Heavy" distillates are those having a final boiling point of 700 deg F or higher.

The diagram shows two of the many ways in which a catalytic cracking unit and associated facilities can be operated to meet the changing seasonal product requirements.

Cost Diesel Fuel?

Case I shows what might be called a typical summer operation. With the aid of allied processes, gasoline and distillate fuel yields of 26.4% and 9.3% on crude, respectively, are obtained. The gasoline from this operation may be blended with the 25.6% of gasoline already separated from the crude to give a total gasoline yield of about 52.0% on crude.

Case II shows an operation where the heavy distillate only is mildly cracked to yield considerable amounts of light cracked distillate and some motor gasoline. The light cracked distillate, along with the light distillate separated from the crude before cracking, has increased the distillate fuel yield to 19.4% on total crude. Gasoline from cracking, 17.9%, is blended with the gasoline distilled from crude, the overall gasoline yield from crude being about 43.5%. In both cases, however, the final gasoline yield is reduced somewhat by use of components for solvents, jet fuels, etc., and by further processing for octane improvements of the gasoline. In practice, the catalytic cracking process is carried out with a wide range of flexibility between these two cases.

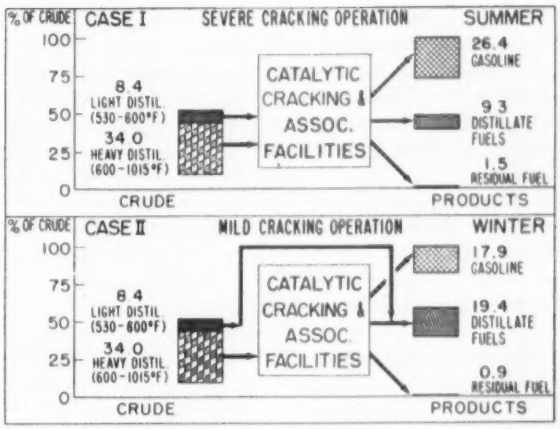
There are many other treating processes to control the final quality of petroleum products to meet customers' needs. An example of the capacity and flexibility of the industry is the Baton Rouge refinery of Esso Standard Ooil Company. Its crude refining capacity is 315,000 barrels per day. It is the largest refinery in the U. S. today. It could produce almost 50 million barrels per year of distillate fuels, or about two-thirds of the U. S. railroad diesel fuel requirement. In addition, it produces over 600 different products from crude oil, each carefully controlled in quality to meet its customers' needs.

Fuels for Possible Diesel Use

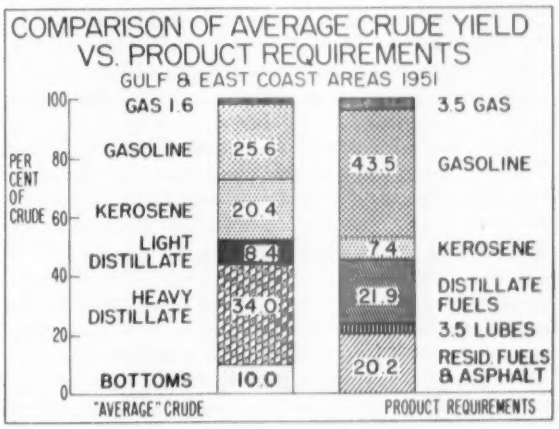
The accompanying table lists critical data for products on the market today, which are either being used as diesel fuels at present or could be used, either by admixture with present fuels or by further processing. These fuels fall into three general classifications: kerosene, distillate fuels and residual fuel.

First, on the left of the table, is kerosene, or No. 1 Fuel Oil. This has one major drawback as a diesel fuel—price. Next, under the distillate fuels heading, are two diesel fuels, a premium diesel and what is commonly termed "railroad diesel." Next is No. 2 Fuel Oil, customarily referred to as "heating oil." Normally, this is a mixture of light distillate from crude and light cracked distillate, with a small amount of light diluent added for pour and boiling range control. This product normally has a flash below 150 deg F, the minimum for diesel fuels. The viscosity will be somewhat lower and the sulphur content somewhat higher than railroad diesel fuel. It will have about the same ash content and final boiling point as present diesels, but will be significantly lower in cetane number and diesel index. There is a very large market for this product in the Eastern area.

In the three right-hand columns, are data for Nos.



Case I is a typical refinery summer operation, utilizing the "average" crude of the Gulf and East coast areas. Case II is a winter operation.



Basic cuts of the "average" crude of the Gulf and East coast areas, produced by distillation, compared with market requirements.

QUALITY AND PRICE OF FUELS ON THE MARKET TODAY

		DISTILLATE FUELS			*RESIDUAL FUELS*		
	Kerosene (No. 1 fuel oil)	*Premium diesel fuel*	*Railroad diesel fuel*	*No. 2 fuel oil*	*No. 4 fuel oil*	*No. 5 fuel oil*	*No. 6 fuel oil*
Average price, 1951-53, cents per gal	9.81	8.91	8.61	8.51	.....	5.29	4.36
Diesel Index	60-65	50-65	45-50	30-40	.....	.....	.....
Cetane No.	50-55	49-59	45-50	30-40	.....	.....	.....
Final boiling point, deg F max	560	675	675	680	.....	.....	.....
Gravity, deg API av	43	38	35	34	21	18	11
Flash, deg F min	115	150	150	130	150	150	150
Viscosity, SSU at 100 max ..	33	40	40	40	140	530	5,800
Conradson carbon: Weight, per cent max	.....	.....	.....	.....	0.02-6.80	0.70-16.2	10-20
Weight, per cent on 10 per cent bottoms, max	nil	0.10	0.16	0.25	.....	.....	.....
Sulphur, weight, per cent max	0.15	0.5	0.75	1.0	1.9	1.9	.....
Total ash, weight, per cent max	nil	0.01	0.01	0.01	0.02	0.09	0.12

4, 5 and 6 Fuel Oils, true residual fuels. They consist primarily of the unvaporized residual portion of the crude remaining after distillation, fluxed to workable viscosity levels with light cracked distillates or other light diluents. The Conradson carbon, sulphur and ash contents of these fuels are considerably above those of distillate fuels. They are also considerably higher in viscosity and lower in API gravity. Sometimes a very heavy distillate containing no unvaporized residuum is supplied as No. 4 fuel.

Factors Determining Prices

The prices shown are the average posted by Esso Standard Oil for 1951-1953 for tank-car quantities at Baton Rouge. This basis is a simple one for comparison between prices at one location. Over this period no prices were quoted for No. 4 Fuel; however, in other areas, No. 4 Fuel has generally been offered at about 2 cents per gallon above No. 6 Fuel.

The prices presented here are historic ones, freely established by the laws of supply and demand in a highly competitive industry. Future possibilities may be gaged by a discussion of factors that have influenced prices in the past.

No. 6 fuel oil not only has competition within the oil industry, but also from the coal industry. Its prices have, therefore, never been far from a level competitive with coal. As a result, it sells below the price of crude oil. Crude oil prices have been, on the average, about 7 cents per gallon at U. S. Gulf ports over the past several years. Refineries therefore try to minimize the production of residual fuel, and have developed processes to convert it into distillates and gasoline.

The distillate fuel prices have the same basic balance wheel as residual fuels—competition in a market where the laws of supply and demand operate freely. However, two factors of demand in particular have tended to have a stabilizing influence on distillate prices. The first of these is a very large market for distillate fuels as home heating oil in eastern U. S. Because of this, any fraction in the heating-oil boiling range has commanded at least heating-oil value.

The other factor that has stabilized the price of distillates is their value for alternate use as raw materials for cracking into gasoline, as well as other marketable products. Thus, if the free market price drops much below their value within the refinery as cracking feedstock to make gasoline, there has been a strong incentive for the refiner to curtail his yields. This has worked in reverse also. When market prices have gone above cracking value, there has been an incentive for yields to be increased to realize the improved return from sales as distillate fuel.

These effects can be observed in the table. Although the three distillate fuels shown vary considerably in the quality characteristics that affect performance of a diesel engine, the price difference between the lowest **quality, heating oil,** and the highest quality, premium diesel fuel, has been about 0.4 cents per gallon. This is because they all have nearly the same quality characteristics with regard to performance as heating oil, and because they do not differ widely in value as cracking feedstock. In 1952 and 1953, Esso Standard Oil's total profit, averaged over the total volume of all products, was one-third of one cent per gallon of product.

What stocks, other than present diesel fuels, should railroads consider for lower total cost of diesel engine operation?

Potential Sources of Diesel Fuel

Although heating oil quality is not controlled with respect to diesel engine performance, it is a potential source of diesel fuel. Where substantial quantities of higher than average quality heating oil are available, railroad diesel oil is priced the same as heating oil. However, there may be some areas where heating oil is available at prices below that of railroad diesel fuel. Where heating oil is available at a lower price, it is possible that slight but positive savings could be made through its use.

Blending of residual fuels into present distillate fuels is another approach that is being investigated today. It shows some promise. While this approach results in a much lower quality fuel with increased maintenance costs, considerable fuel cost savings accrue. For instance, to use a blend of 75% premium diesel fuel and 25% No. 5 Fuel Oil would save 0.9 cents per gallon as compared to using the straight premium diesel fuel. Should the ratio go to 50:50, you would save 1.8 cents per gallon on fuel costs.

This approach, however, will probably result in new problems, or further aggravation of present problems. Each of two stocks may be low in sediment or Conradson carbon content and completely stable, whereas a mixture of the two may be very unstable. Other problems must be resolved by experimentation, such as corrosion, erosion, etc.

It is probable that engine designers can develop engine features which will partially overcome disadvantages of residual fuel. The use of additives may also aid in solving the problems encountered. The use of residual fuels in admixture with present distillate fuels is a fundamentally sound approach to consider in seeking more economical operation.

Another possible source of distillate fuel is the heavy distillate portion of the crude. Such stocks are being marketed today but only in negligible quantities—a fraction of a per cent of the crude processed. These stocks have been priced at about ½ cent per gallon below light distillates, but are considerably below light distillates in quality. At this price, the stocks are of doubtful value as possible diesel fuel for the railroads. They are also of doubtful availability in large volume at this price or lower price since their value within the refinery is about equal to that of the light distillate.

Few "Distress Products" Available

It is sometimes asserted that "distress products" or "byproducts" of the petroleum industry can be made available as diesel fuel at considerable savings. Modern refineries have been constructed with the flexibility to prevent just such a situation. Possibly in less densely populated areas, where refineries may be smaller and less flexible, or where heating oil markets are not large, small amounts of so-called "distress" fuels may exist,

but they cannot be counted on and should be considered an extremely small part of any future picture.

Another approach commonly mentioned is that elimination of treating for quality control will allow production of a much cheaper fuel. Actually, treating costs are extremely small, only a fraction of a cent per gallon. The maximum treating cost encountered by the average refinery probably does not exceed 0.5 cents per gallon, and the average cost is much less. Usually treating is for stability rather than ignition quality improvement, and while the use of additives may offset the loss in stability, their cost will also tend to decrease overall savings.

The use of additives, as improvers of both stability and cetane number, probably will play an important part in the future of diesel fuels. While their use may have drastic effects on the quality of permissible base stocks, it is doubtful that they will have a major effect on economics. Here again alternate use values of fuels within the refineries tend to prevent any drastic changes.

The writer's comments on additives are made without prejudice, since Esso Standard and its affiliates are engaged in the manufacture and sale of additives, and believe in their use where there is an overall advantage.

II. Additives Are Quality Correctives

WHEN A PETROLEUM STOCK is cracked by any of the conventional catalytic cracking processes, such as the fixed bed, moving bed, or fluid processes, the conversion products comprise not only gasoline hydrocarbons but also heavier distillate components in the fuel-oil range boiling between about 350 deg F and 750 deg F. General practice is to mix these stocks with straight-run distillate oils of similar boiling range giving a mixed oil having improved burning characteristics, and aiding the refinery in balancing its production. In the same manner, thermally cracked fractions from heavier oils are mixed with straight run or virgin gas-oil distillates to produce fuel oils.

Fuel oils derived from cycle stocks (heavy fractions recycled to the cracking process) are of complex composition dependent on the source of the original crude, on whether the cracking is catalytic or non-catalytic, on the severity of the cracking operation, and the amount of recycling. Diesel fuels of stocks from catalytic cracking generally tend to be of lower cetane number and higher sulphur content and to have poorer stability than straight-run fuels.

In the case of straight-run distillates, sludging is not normally troublesome, although on occasion straight-run fuels have given trouble in service due to instability attributable to constituents not ordinarily present. These can result from inadequate or improper refinings; for example, failure to remove enough sulphur, either in original components or because sulphur compounds formed during doctor treating of the distillates. Naphthenic acids not removed completely during a caustic washing process have also been thought to contribute to instability of a straight-run distillate.

Thermally cracked stocks are generally less stable as refined than catalytic cracked stocks. When cat-cracked stocks are mixed with straight-run stocks, the blends are in most cases much less stable than either oil alone. It is believed that one reason for this is that the reaction products of oxidation of polymerization are less soluble in the mixed oil and, therefore, tend to precipitate out.

Although factors causing instability have been the subject of considerable study, they cannot be easily measured or predicted. Oxygen has been established as one dominant factor. Instability has been attributed to sulphur compounds, such as mercaptans, thiophenols and thiocresols; to nitrogen compounds such as pyrroles; to metal catalysts such as iron and copper; and to unstable diolefinic hydrocarbons. Probably any one or a combination of these, and undoubtedly many other types of compounds which can enter into oxidation or polymerization reactions, can cause these insoluble sludges.

Progress in Additive Development

It is obvious that treatment of fuel oils, because of their complex composition, is difficult. Additives can react quite differently with a variety of fuels under differing conditions. From a marketing standpoint it is desirable to have an additive that is effective with the greater proportion of fuels regardless of their sources or type of refining treatment.

Considerable progress has been made in this direction by the use of several components blended into an additive which functions satisfactorily in a wide variety of fuel oils. However, at National Aluminate it has been found desirable to have more than one treatment. One type is preferred, for example, if the application is primarily one of heat stability. Another type is more effective for color and sludge stabilization under long-term storage conditions at ambient temperatures. Still another type has been used in stabilizing a shale oil.

An unstable fuel can interfere with performance of a diesel engine in several ways, among which are clogging, gumming and corrosion of vital parts. Sludge can clog filters and screens; *in situ* gum formation and corrosion can cause injector failure. Sludge particles can be incompletely burned, giving rise to nozzle deposits and interfering with the spray patterns. These, in turn, can impair proper combustion and lead to bad smoking conditions, a decrease in engine cleanliness, and inefficient use of the fuel.

In some cases petroleum acids or active sulphur compounds in the fuel can cause clogging of copper or copper-bearing screens and filters. These compounds react with the filters, and the products tend to coat the metal so as to reduce the size of openings so even extremely finely divided insoluble matter will clog them.

Oftentimes, the presence of such impurities as moisture or dispersed water can aggravate the clogging tendencies of a fuel oil, especially where sludge is present.

Sludge Preventatives

Additives presently available are quite effective in stabilizing fuel oils against the formation of sludge in storage or on heating. They also are effective dis-

persants so that if insoluble residues do form, or have formed prior to treatment, the precipitates are dispersed to such a small particle size that no difficulty is experienced with filters or other restricted areas. These fine particles can also undergo more complete combustion.

The presence of water, from condensation in storage tanks or any other source, generally makes an oil corrosive. The corrosion inhibiting characteristics imparted to the fuel oil by the properly formulated additives are effective in minimizing injector difficulties caused by such corrosion as well as protecting the distribution system and decreasing contaminates due to the corrosion process.

The cetane number requirements of a fuel depend on engine design, size, nature of speed and load variations, and on starting and atmospheric conditions. An increase in cetane number over values actually required does not materially improve engine performance. To attach quantitative significance to the cetane number, it is necessary to study the performance of a fuel under the particular environment in which one is interested. Where necessary, the rate of the chemical reactions preceding auto-ignition of a fuel can be increased by the addition of cetane improvers. Of the many materials suggested, amyl nitrate has been accepted and field tested and is being used successfully.

Where low pour points are encountered the use of pour-point depressants may be an economical solution in some cases. Some work is being done on developing heating equipment to handle such fuels. The savings, if any, should lend themselves to comparatively easy calculation.

It is essential that any material added to a diesel fuel to protect it against deterioration or to improve its performance should be effective in extremely small quantities (1) in order to be economically feasible and (2) so that secondary problems do not arise. Proper additives are available today to satisfy these requirements. Satisfactory results can be obtained for a chemical cost of only a few cents per barrel of fuel, oftentimes for less. Dosages for stabilization of fuel oils run on the order of a pint to two quarts per 1,000 gallons of fuel—or from 0.3 to 0.9 mill per gallon.

If the cost of the fuel could be reduced by only one-half cent per gallon, the gross savings (based on last year's consumption) would amount to $15 million. Figuring the treatment cost at 0.5 mill per gallon, the net savings would be $13.5 million.

One of the first successful service demonstrations of the benefits of additive use was made by the Denver & Rio Grande Western on a very unstable fuel derived from shale oil. In a test without an added stabilizer, this fuel caused operating difficulties, i.e., plugging of screens and filters and deposits on injectors, piston skirts and rings—all within a very short period. Following the addition of a stabilizer, a test which ran for 45 days, or 751 hours, of actual engine operation, gave results comparable to those obtained with a high-grade specification fuel. There were no adverse effects on engine performance or maintenance and actually better efficiency was obtained per unit volume of fuel because of higher Btu content.

Since that time additional experience has been obtained by the D&RGW with treated lower cost fuels of the types discussed above. These have varied in cetane number from 33 to 45, in initial boiling point from 366 to 454 deg F, in sulphur from 0.34 to 0.90 and in pour point from —15 deg F to +15 deg F. Net savings of over $20,000 a month are being made by use of these fuels.

New Laboratory Techniques Needed

One of the problems concerning a laboratory is the lack of standardized accelerated tests which will predict accurately the stability characteristics of a fuel over extended periods of storage and in the performance of the fuel in actual use. At National Aluminate a number of different types of tests are in use, and with continued experience and observation ability to predict the effects of fuel composition and chemical additives on the service results is expected.

At present there is nothing in diesel fuel specifications relating to stability of the fuel. As the importance of this factor may increase with greater use of cracked distillates and blends, standardization of such laboratory tests will become increasingly necessary.

Organizations

D. V. Fraser, president of the Missouri-Kansas-Texas, and William H. Schmidt, Jr., executive editor of *Railway Age*, will be principal speakers at the annual meeting of the **Treasury Division, Association of American Railroads,** September 6-9, at White Sulphur Springs, W. Va. Other speakers include Division Chairman A. M. Jacobs, secretary and treasurer of the M-K-T; A. Henry Walter, director of the Bureau of Inquiry and Compliance, Interstate Commerce Commission; John E. Kusik, vice-president—finance, Chesapeake & Ohio; and A. R. Seder, vice-president, AAR. J. J. Anzalone, treasurer of the C&O, heads the arrangements committee.

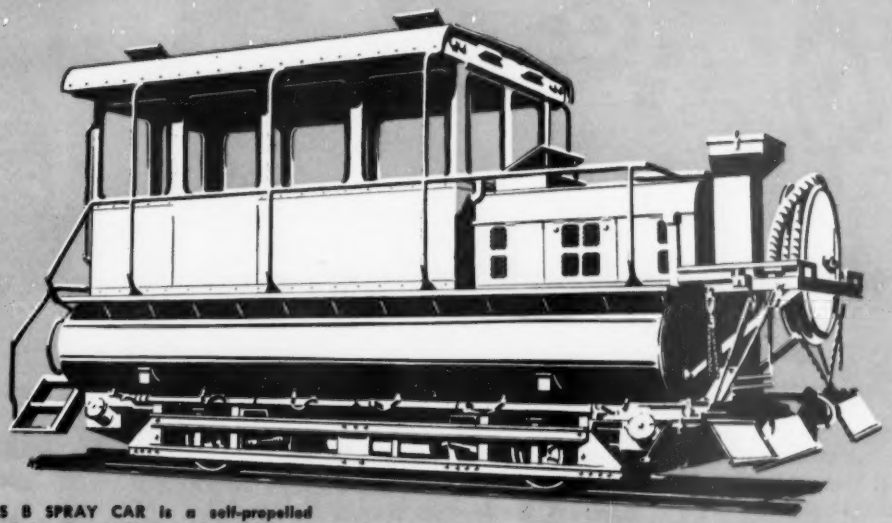
Among speakers at the ninth annual convention of the **National Defense Transportation Association,** at the Hotel William Penn, Pittsburgh, October 24-27, will be Giles Morrow, president, Freight Forwarders Institute, who will deliver the keynote address on October 25; James M. Symes, president of the Pennsylvania; and Earl B. Smith, director of transportation, Department of Defense.

The **Car Foremen's Association of Chicago** will meet September 13 at the La Salle Hotel. H. M. Nelson, of the Fruit Growers Express Company, Alexandria, Va., will discuss various aspects of mechanical refrigeration of freight cars.

The 27th annual **Maine State Safety Conference,** at the Marshall House, York Harbor, Me., will include a Railroad Section on the afternoon of September 16, presided over by John L. Babcock, safety supervisor, Bangor & Aroostook. Speakers will be R. H. Peters, assistant to president, B&A; E. K. Bloss, mechanical superintendent, Boston & Maine; J. W. Wiggins, chief engineer, Maine Central; F. E. Bailey, division superintendent, Canadian Pacific; and R. L. James, inspector, Bureau of Explosives, Westerly, R.I.

Patrick B. McGinnis, president, New York, New Haven & Hartford, will be the speaker at the dinner meeting of the **New England Shippers Advisory Board,** on September 14, in connection with the board's 57th regular meeting to be held at Poland Spring House, Poland Spring, Me., September 13-14.

Whatever your needs for work equipment...



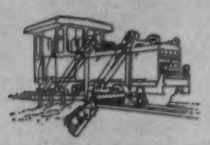
W66 SERIES B SPRAY CAR is a self-propelled unit designed for the application of liquid weed killers to ballast and shoulder sections. Two sets of different sized nozzles can be used separately or simultaneously. Three speed, two-way drive.

Fairmont has the answer!

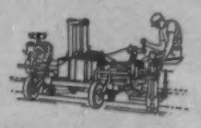
Fairmont is justly famous for its contributions to railway maintenance transportation—and its name has, through years of service in the industry, become almost synonymous with railway motor cars. These same qualities of dependability, ruggedness and efficiency which have distinguished Fairmont in the field of transportation have brought it similar fame in the realm of work equipment. Grouting, Ballast Maintenance, Tie Renewal, Rail Renewal, Weed Control—all have been submitted to the skill and resources of Fairmont engineers and craftsmen. The result, in each case, has been new and greatly improved answers to these various maintenance problems. Illustrated below are several of the many Fairmont products which typify this ever-present search for better work equipment. We hope that you will examine each carefully—so that you can better appreciate their individual contributions to fast, thorough workmanship. But we also hope you will remember that these are only a few of the vast and varied work products which Fairmont offers—covering every conceivable phase of every maintenance job in the industry today. Taken together, they make Fairmont your finest answer for every maintenance requirement.

FAIRMONT RAILWAY MOTORS, INC., FAIRMONT, MINNESOTA

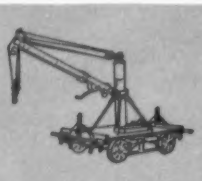
Performance ON THE JOB COUNTS



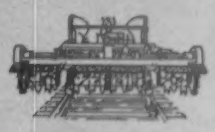
W77 BALLAST MAINTENANCE CAR mounts scarifiers, discs, ballast equalizing boxes, two sizes of blades and a center plow. Additional features include a 112 h.p. engine with eight speeds and two-way, four-wheel drive.



W85 HYDRAULIC SPIKE PULLER, designed for gang use, is self-propelled for forward and reverse. One man operation. Controls, platform, seat can be positioned for pulling on either side. Its capacity is 20 to 25 spikes per minute.



W63 SERIES A DERRICK CAR, especially useful in bridge repair, can handle up to 3,000 lbs. Boom reaches eight feet from center of track. Six foot safety coupler link allows towing, even when loaded. Full 360 degree operation.

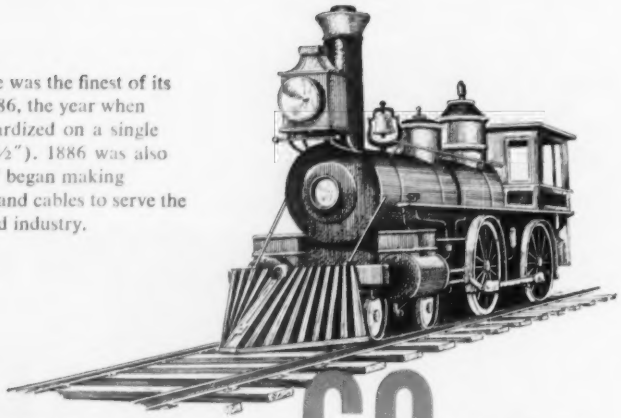


W87 TIE BED SCARIFIER with one operator can dig ten feet of tie bed a minute to a uniform depth and at right angles to the rails. Assembly is raised and lowered hydraulically. Drive for the renewable digging teeth is also hydraulic.

W61 SERIES B OIL SPRAYER, a simple compact unit, oils both sides of angle bars by spraying heated oil under pressure. Complete coverage and penetration at minimum cost. Can be fitted with weed spraying attachments.

MANUFACTURERS OF INSPECTION, SECTION AND GANG CARS, HY-RAIL CARS, MOTOR CAR ENGINES, PUSH CARS AND TRAILERS, WHEELS, AXLES AND BEARINGS, BALLAST MAINTENANCE CARS, DERRICK CARS, OIL SPRAY CARS, GROUTING OUTFITS, TIE RENEWAL EQUIPMENT, RAIL RENEWAL EQUIPMENT, WEED CONTROL EQUIPMENT

This locomotive was the finest of its type back in 1886, the year when railroads standardized on a single gauge (4 ft., 8½"). 1886 was also the year "U. S." began making electrical wires and cables to serve the growing railroad industry.



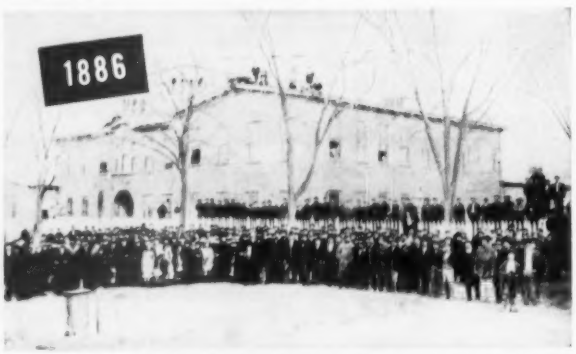
In step with America's Railroads for 68 years

U. S. Electrical Wires and Cables

Year by year, America's railroads become more and more dieselized and electrified. That steps up the demand for electrical wires and cables. But it also means that manufacturers have to turn out wires and cables of tougher specifications, greater durability, wider versatility. The tremendously complex centralized traffic control systems and other "push-button" devices need the finest wires and cables obtainable.

United States Rubber Company is right in the middle of this tremendous railroad electrification growth. For 68 years "U. S." has been supplying railroads with the wires and cables required—as well as *anticipating* future demands. "U. S." has gone along side by side with the railroads, as they grow into an ever stronger national transportation system—a system unmatched in economy, efficiency and safety.

"U. S." is the only wire and cable manufacturer growing its own natural rubber, making its own synthetic and plastic compounds. Through this unequaled *control of manufacture*, "U. S." can always guarantee *superior insulation* in every type of wire and cable it produces.



Above is the United States Rubber Company wire and cable factory in 1886. Below (left) as it looks today.

Just as this up-to-the-minute Diesel typifies the advancement in locomotion, so also "U. S." electrical wires and cables typify leadership in their field, as they have for 68 years.

US RUBBER

UNITED STATES RUBBER COMPANY

ELECTRICAL WIRE AND CABLE DEPARTMENT • ROCKEFELLER CENTER, NEW YORK 20, N. Y.

Rates & Fares

(Continued from page 16)

the volume of passengers handled appeared insufficient to warrant so steep a reduction under regular rates. He said he didn't feel the idea was worth repeating—in the next few months at least. The short time available for promoting the excursion may have obscured the results somewhat, he indicated, adding: "I don't think the time has yet arrived when such measures are needed to hold traffic."

CB&Q — "Perhaps the most commendable aspect of the excursions was that they brought a lot of new people to the railroads," commented Julius Alms, general passenger traffic manager of the Burlington, which sold a shade under 250 excursion tickets but kept expenses to a minimum by using only four extra coaches (two with domes) on regular trains.

"Our regular business evaporated over that weekend with almost all our coach traffic traveling on the reduced rate. I personally feel this excursion experiment merely dissipated the revenues of our regular round-trip travel and also jeopardized our position with respect to group travel which we now handle in considerable volume at regular rates. On each of the three railroads there are scenic intermediate points where excursion rates could be used to produce a high volume of travel. But, from our experience, the time is not yet here when we can afford to put such rates into effect between major metropolitan areas," Mr. Alms concluded.

CNR Wins Increase In Commuter Fares

The Canadian Board of Transport Commissioners has authorized the Canadian National to increase by 100% its commuter fares between Toronto and main-line stations west as far as Oakville, about 21 miles. Half the increase is to become effective September 30; another quarter of it six months later; and the remaining 25% six months after that.

Importance of the decision lies in its apparent establishment, so far as the board is concerned, of the principle that a railway "is entitled to charge commutation rates at a level that will return at least the railway's reasonable and actual out-of-pocket cost of furnishing the commutation service concerned, and that the railway should not be required to provide or continue to provide commutation services which will not meet the cost."

Although the decision may be appealed to the courts, and possibly to the federal cabinet, the board's decision is considered to have an important bearing on its probable action in connection with pending CNR and Canadian Pacific applications for commuter fare increases in the Montreal area. The CNR contended that it was losing $300,000 per year on its Toronto-Oakville service.

ICC Reopens Ore Rate Case

The Interstate Commerce Commission has reopened proceedings relating to rates on iron ore moving through Eastern ports to steel mills in the Wheeling, Steubenville and Youngstown areas.

The commission recently halted a threatened rate war by permitting establishment of parity rates from Baltimore and Philadelphia *(Railway Age*, February 22, page 16).

However, the commission at that time refused to extend the parity to New York City and Boston.

The reopening of the case was sought by parties who wished to extend the parity rates to those two cities, that is, the Erie, New York Central, New Haven and Boston & Maine and New York City and Boston municipal interests; also the Baltimore & Ohio and the city of Baltimore, which would reestablish the former differential in favor of Baltimore.

NH Introduces New Low-Fare 10-Ride Ticket

A new low-fare 10-ride ticket, good between any two stations not more than 40 miles apart, except between Boston and points within 15 miles thereof, was introduced by the New Haven on August 15. The tickets will be sold between Grand Central Terminal in New York and many of the New Haven's main-line points in Connecticut, but will not be good to or from New York's Pennsylvania Station.

Tickets between points less than 30 miles distant will be tax-free. None of the new tickets will be restricted to use by the purchaser alone, but may be transferred to family members or friends.

People in the News

Page Will Head Transport Study for Cabinet Group

Arthur W. Page, a director and former vice-president of American Telephone & Telegraph Co., has been named to direct a working group for President Eisenhower's Cabinet Committee on Transport Policy and Organization (*Railway Age*, July 19, page 10).

Working with Mr. Page will be Charles L. Dearing, who resigned as deputy under secretary of commerce for transportation August 25 and will be on loan to the committee from the Brookings Institution; Charles H. Beard, general traffic manager, Union Carbide & Carbon Corp.; Fairman R. Dick, partner in the firm of Dick & Merle-Smith, New York; George Roberts, of Winthrop, Stimson, Putnam & Roberts, New York; Arthur C. Schier, vice-president for traffic, General Foods Corporation; and Ernest W. Williams, professor of transportation, Columbia University.

Secretary of Commerce Weeks announced that the group will hold no public hearings, but will welcome written presentations on transportation problems from interested parties.

ICC Announces Staff Changes

The Interstate Commerce Commission has appointed R. W. Bay chairman of its Board of Suspension. Five other new assignments on that board, the Fourth Section Board and the Bureau of Rates, Tariffs and Informal Cases also have been announced.

Mr. Bay, a member of the Board of Suspension, succeeds the late R. D. Hagerman as chairman. W. N. Muss, rate and tariff analyst, was named a new member of the board.

G. B. Robinson, assistant chief in the Rail Tariffs Section of the Bureau of Rates, Tariffs and Informal Cases, was advanced to assistant director of the bureau. R. R. Gibbs, a member of the Suspension Board, succeeds Mr. Robinson.

In turn, C. C. Barrow, a member of the Fourth Section Board, moved to the Suspension Board, and his place was taken by R. R. Sherman, assistant to director of the Bureau of Rates, Tariffs and Informal Cases.

Competitive Transport

ICC Rules Against Barge Line Plan

In a two-to-one decision, with Commissioner Mahaffie dissenting, Division 4 of the Interstate Commerce Commission has rejected an application to pro-

Briefly . . .

. . . **Coach seat reservation memos,** in a different color for each of seven "name" trains, have been mailed by the Union Pacific to 9,000 ticket agents from coast to coast. E. A. Klippel, UP general passenger traffic manager, says the individual memos will speed up the work of ticket agents, making train identification faster once a traveler is en route. An eighth memo, differently colored, can be made out for any UP train. Ticket agents of all major U.S. railroads are being supplied with the forms.

Index of Average Unit Prices of Railroad Fuel, Materials and Supplies, and Composite Index Of Unit Prices and Wage Rates*

(1947-1949=100)

Year	Index of charge-out prices of materials	Index of wage rates	Combined index of prices and wages
1939	52.0	56.5	55.2
1940	52.7	56.6	55.4
1941	55.2	58.7	57.7
1942	60.0	63.7	62.6
1943	64.5	68.2	67.1
1944	67.5	71.0	70.0
1945	69.3	71.2	70.6
1946	75.4	85.3	82.3
1947	88.8	89.7	89.4
1948	104.7	100.2	101.6
1949	106.4	110.0	108.9
1950	105.7	120.5a	116.1
1951	117.5	134.1a	129.1
1952	119.1	140.8a	134.3
1953	122.0	144.2	137.5

*Source: Bureau of Railway Economics, Association of American Railroads. a Includes retroactive pay increases.

vide barge service from the West Coast to Gulf of Mexico ports.

The application was filed by Alaska Freight Lines, which proposed monthly round-trip service. Commissioners Mitchell and Cross noted lack of clear evidence that barge service could be provided more economically than present rail-steamship rates or that schedules could be met. Commissioner Mahaffie held the "experiment" should be tried.

More Feeder Lines Brought Into Air Mail "Experiment"

The Post Office Department's "experiment" in the handling of three-cent, first-class mail by air will be extended to 10 additional "feeder" or local-service airlines. The new services were scheduled to start September 8.

The "experiment" has been under way for some time on several main trunk routes and on three "feeder" lines (*Railway Age*, March 29, page 27). The 10 additional "feeder" lines now cut in are: Allegheny, Mohawk, Lake Central, Ozark, Southern, Trans-Texas, Pioneer, Bonanza, West Coast and Southwest.

The Post Office Department's announcement said the extended service would enable its patrons "in more than 100 communities" to receive mail "considerably sooner than at present."

Law & Regulation

Atlanta Transport Club Hears Commissioner Freas

Regulation tends to simplify rather than complicate carriers' and shippers' problems, Interstate Commerce Commissioner Howard Freas told the Atlanta Transportation Club August 19.

"The inconveniences which result from having to deal with the commission are slight compared with what they would be under freer competition," he declared. However, the commissioner continued, "there is need for seeing that no unproductive regulatory effort is put forth."

Noting that Congress is now "seeking help in forming a new transportation policy" and that the ommission annually suggests some new legislation, Mr. Freas nevertheless said that he now has "no extensive" changes to suggest and would advise "a most careful scrutiny" of any that are proposed.

Speaking on the first anniversary of his appointment to the ICC, Mr. Freas also touched on the commission's personnel situation under limited budgets, the reorganization of bureaus and other departments in the commission, increased problems related to contract carriers and private transportation and the "so-called dirty car problem."

Mackie Urges Single Regulatory Agency

A single national regulatory agency for all forms of transportation was called for by David I. Mackie, chairman of the Eastern Railroad Presidents Conference, in an address to the American Bar Association's panel on public utility law at the association's annual convention in Chicago August 18. Such a regulatory agency, he said, would help government carry out the declaration of National Transportation Policy.

Mr. Mackie recalled the congressional mandate of 1940 for "fair and

AUTO RENTALS ARE UP—DESPITE TRAFFIC DECLINE

NEW RENTAL COUNTERS and new direct-line telephones in stations across the country are boosting auto rentals by railroad passengers, even in the face of generally declining passenger traffic, according to Walter L. Jacobs, president of the Hertz Rent-A-Car System. He reports a 13% increase in rail-auto rentals during the first six months of this year. The counter shown above was recently installed at the Chicago & North Western station at Milwaukee.

DELIVERY OF THE RENTED CAR is made by a uniformed attendant right at the station entrance (in this case, of the Milwaukee's Milwaukee station). Counters, or direct-wire phones, have now been installed in union stations at Chicago, New Orleans, Washington, D.C., Cleveland, Cincinnati, St. Louis and Los Angeles; South Station at Boston; Terminal and Union stations at Atlanta; and UP and D&RGW stations at Salt Lake City.

impartial regulation of all forms of transportation." Yet today, he pointed out, there are three federal agencies regulating transportation—the Interstate Commerce Commission, the Federal Maritime Board, and the Civil Aeronautics Board.

Effective regulation, Mr. Mackie contended, cannot be pieced together by groups which do not see the field as a whole. Sympathy for "inherent or acquired disabilities" of a particular mode of transport too easily grows into special pleading for inequalities and preferences, he said; adding that competition can only benefit the public when it is fair and equal, and that fairness is not the product of advocacy by a regulatory agency.

Mr. Mackie called the ICC the logical agency to expand into the single regulatory body he favors, since it already has jurisdiction over railroads, express and sleeping car companies, pipe lines, motor and domestic water carriers and freight forwarders. The CAB, he recalled, was organized before the National Transportation Policy was formulated in 1940, and its functions could now be placed under ICC jurisdiction in accordance with that policy.

Delays Inspection Rules For Self-Propelled Cars

The Interstate Commerce Commission has set back until January 1, 1955, the effective date of the rules it has prescribed for the inspection of multiple-unit equipment, i.e., electrically-propelled cars operated by a single set of controls. The rules had been scheduled to become effective September 1.

The postponement came after petitions for reconsideration had been filed by 10 railroads. (*Railway Age*, May 31, page 13.)

Securities

Northern Pacific. — *New Bond Issue.*—Invitations for bids on an issue of $52 million of collateral trust bonds will be mailed September 7, and opened September 23. The issue will be used to retire an approximately equal amount of collateral trust 4½s, due in 1975, and series C and D refunding and improvement mortgage 5s, due in 2047. The new bonds will be dated October 1, 1954, and mature October 1, 1984.

Western Pacific.—*Debenture Proposal.*—A proposal whereby holders of 5% preferred stock would exchange their holdings for new debenture bonds plus fractional shares of common stock has been approved by WP directors. There are presently 308,211 shares of WP preferred outstanding. The proposal calls for $100 of new 30-year 5% debentures plus one-sixth share of common for each share of preferred. A total of $22.5 million of income debentures and 37,500 shares of common stock would be issued, while about $8.9 million of treasury cash would be used to redeem 82,211 preferred shares at par plus accrued interest of $6.25 per share. If holders of more than 225,000 preferred shares accept the exchange offer, the new securities would be issued subject to allotment.

Applications

FORT DODGE, DES MOINES & SOUTHERN.—To issue to the Small Business Administration a note for $350,000, bearing interest at 4 to 5%, to finance repairs to road property and power generating facilities damaged in a flood at Fort Dodge, Iowa, June 21. The note would be secured, if required, by a second mortgage on road property. A second, unsecured, note for $15,000 would be issued to the Lehigh Sewer Pipe & Tile Co. for the same purposes, this note bearing interest of 3% and maturing in 10 years.

ILLINOIS CENTRAL.—To issue and sell not exceeding $60,000,000 of first mortgage, 35-year bonds, series H. The proceeds, with other funds, would be used to redeem, on November 1, $60,628,000 of consolidated mortgage, 35-year bonds, series E. The redemption would be at 101⅝. The new bonds would be sold on the basis of competitive bids, and the interest rate on them is not expected to exceed 3¼%. Their indenture would include sinking fund provisions.

Authorization

BEECH MOUNTAIN.—To issue 500 shares of $100 par value stock to Peerless Coals, Inc., to be used for organization and capital expenses and for purchase of a diesel locomotive.

Security Price Averages

	Aug. 31	Prev. Week	Last Year
Average price of 20 representative railway stocks	67.10	70.83	59.12
Average price of 20 representative railway bonds	96.28	96.79	89.63

Dividends Declared

BEECH CREEK.—50¢, quarterly, payable October 1 to holders of record September 8.

BOSTON & ALBANY.—$2, quarterly, payable September 30 to holders of record August 31.

CHICAGO, BURLINGTON & QUINCY.—$2, payable September 20 to holders of record September 16.

DAYTON & MICHIGAN.—common, 87½¢, semiannual; 8% preferred, $1, quarterly; both payable October 1 to holders of record September 15.

ERIE.—common, 37½¢, quarterly, payable September 30 to holders of record September 10.

ILLINOIS CENTRAL.—62½¢, quarterly, payable October 1 to holders of record September 3.

KALAMAZOO, ALLEGAN & GRAND RAPIDS.—$2.95, semiannual, payable October 1 to holders of record September 15.

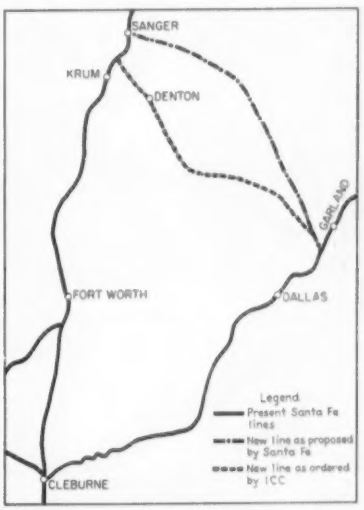
KANSAS CITY SOUTHERN.—common, 75¢ quarterly, payable September 15 to holders of record August 31; 4% non-cumulative preferred, 50¢, quarterly, payable October 15 to holders of record September 30.

PITTSBURGH, FORT WAYNE & CHICAGO.—common, $1.75, quarterly, payable October 1 to holders of record September 10; 7% preferred, $1.75, quarterly, payable October 5 to holders of record September 10.

READING.—4% 2nd preferred, 50¢, quarterly, payable October 14 to holders of record September 23.

UNION PACIFIC.—common, $1.25, quarterly; 4% preferred, $1, semiannual; both payable October 1 to holders of record September 7.

New Facilities



THESE ROUTES are under study as...

Santa Fe Considers Alternate Dallas Line

The Santa Fe's proposal to build a cut-off line into Dallas, Tex., has been delayed by an ICC order requiring the line to be routed via Denton. Both versions of the new route are shown in the accompanying map. As a result of the commission's action, officers of the Santa Fe plan to meet with representatives of the Katy and the Texas & Pacific to discuss problems of track connections and interchange at Denton.

The original Santa Fe proposal called for construction of a 48.1-mile line between Sanger and a point near Reinhardt and Garland. Via Denton, the line would be approximately 50.1 miles (*Railway Age*, August 16, page 10).

The Santa Fe has served Dallas for nearly 70 years, but entrance into the city for freight traffic from the north has involved a circuitous route through Fort Worth and Cleburne. The road has operated one passenger train a day between Fort Worth and Dallas, with other Dallas passengers being handled by bus between the two cities.

Estimates filed with the ICC indicated the new line would cost approximately $5,398,000. Based on 1952 traffic, the Santa Fe has estimated it would save about $306,000 a year.

GN Using New Line in Butte

Great Northern trains in and out of Butte, Mont., are now using a new line located generally about one mile east of the original line.

The new line was built as part of a general project to permit mining operations in the area traversed by the old line. It is 4.77 miles long, as com-

(*Continued on page 62*)

Important symbol

of quality service

...smooth, lustrous

SIMTEX

napery

Specify Simtex—the only table napery, domestic or imported, woven of combed cotton.

That extra combing process gives you napery that has no peer for handsome looks and serviceability. For as you know, combing the yarns removes all short fibers and traces of impurities. The result: a much smoother, stronger fabric. Simtex napery stays fresh longer, too, thanks to our exclusive finishing process.

For its outstanding beauty and practicality, Simtex napery has long been the preference of better hotels, transportation systems, hospitals, schools, clubs, and restaurants. Today, Simtex is more important than ever to purchasing agents, who must offset rising operating costs by buying the most economical equipment possible, and still maintain high quality standards. This you can do—for at no increase in price, Simtex gives you *finer value than ever.*

Simtex MILLS, DIVISION OF SIMMONS CO., 40 WORTH ST., NEW YORK 13, N. Y.

fast modern trains go far with

• To keep your diesels whizzing by . . . to lower your operating costs, think of Standard Oil.

Quality lubrication is important in keeping expensive equipment running like new. And when you get Standard, you *know* you get quality.

Standard's diesel fuels and oils make no compromise: they're skillfully refined, engineered and thoroughly tested to assure top performance. And then, Standard's strategically located refineries and service facilities blanket the railroad heart of America.

For speed, sure deliveries, reliable economy—be modern: go far, go fast, go Standard.

STANDARD OIL COMPANY
(Indiana)

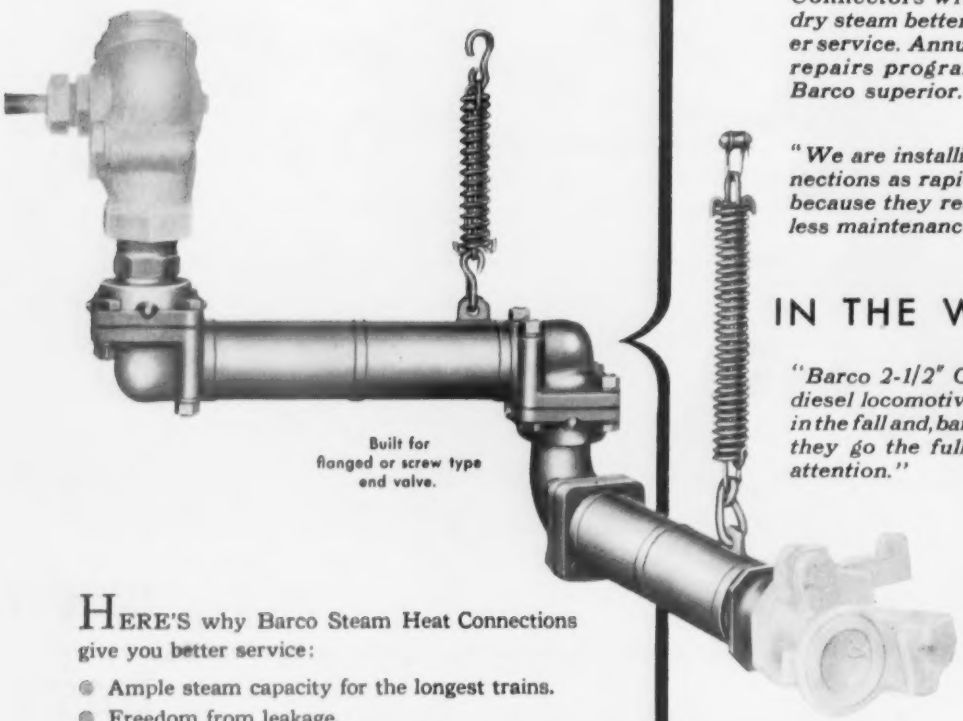
STANDARD

RECORDS PROVE

LONGER, BETTER SERVICE!

BARCO

STEAM HEAT CONNECTIONS



Built for flanged or screw type end valve.

HERE'S why Barco Steam Heat Connections give you better service:

- Ample steam capacity for the longest trains.
- Freedom from leakage.
- Pressure-sealed and blow-out proof.
- Built with light weight, all-welded steel and improved gaskets.
- Ball joints of specially hardened steel.
- Adequate spring support for entire assembly.

It's easy to keep Barco Steam Heat Connections in perfect condition for winter service. Only two joints to maintain per connection. Cuts costs; saves time; simplifies stocking of parts. For complete information, write BARCO MANUFACTURING COMPANY, 501-K Hough St., Barrington, Illinois. In Canada: The Holden Company, Ltd.

Reports from Users

IN THE EAST...

"Tests have proved that Barco Connectors withstand diesel dry steam better and give longer service. Annual removal and repairs program has proved Barco superior."

"We are installing Barco connections as rapidly as possible because they require so much less maintenance."

IN THE WEST...

"Barco 2-1/2" Connections on diesel locomotives are checked in the fall and, barring accidents, they go the full year without attention."

"Barco Steam Heat Connections on our_____ streamliner have gone more than two years without a gasket change."

"We started a test of Barco Connections on our road two years ago. A year later we ordered another sixty and only one has been removed in a year."

WHAT HELPS THE RAILROADS, HELPS AMERICA

One of the 160 Uses of CONCRETE on Railroads

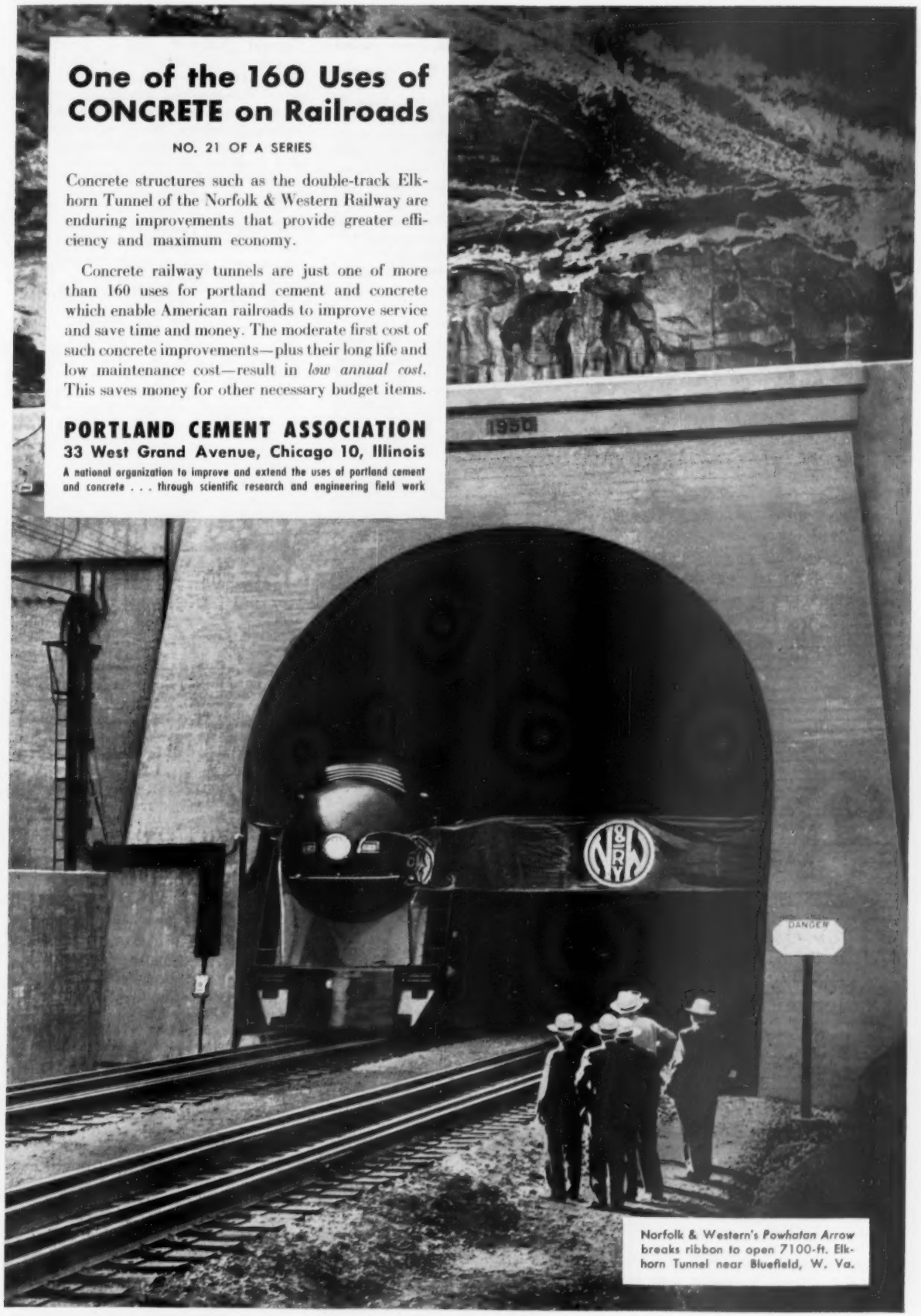
NO. 21 OF A SERIES

Concrete structures such as the double-track Elkhorn Tunnel of the Norfolk & Western Railway are enduring improvements that provide greater efficiency and maximum economy.

Concrete railway tunnels are just one of more than 160 uses for portland cement and concrete which enable American railroads to improve service and save time and money. The moderate first cost of such concrete improvements—plus their long life and low maintenance cost—result in *low annual cost.* This saves money for other necessary budget items.

PORTLAND CEMENT ASSOCIATION
33 West Grand Avenue, Chicago 10, Illinois

A national organization to improve and extend the uses of portland cement and concrete . . . through scientific research and engineering field work



Norfolk & Western's *Powhatan Arrow* breaks ribbon to open 7100-ft. Elkhorn Tunnel near Bluefield, W. Va.

New Facilities

(Continued from page 57)

pared to 3.61 miles for the old line, but has a maximum grade of 2.20% instead of 2.75%, and the maximum curvature is eight degrees as compared to 10. Total curvature reduction by the new line is 151 deg 48 min.

Construction of the new line was started in July 1953. Grading, bridge and culvert work was undertaken by the Finlen & Sheridan Construction Co. and the Morrison-Knudsen Company. Track laying and installation of communication facilities were handled by GN forces.

Alaska.—Main-line track between Seward and Portage, 58.7 miles, is being rehabilitated by Mannix International, Inc., at a cost of $1,731,414. The work includes replacement of existing 70-lb rail with new 115-lb rail on 255,000 track feet; installation of 40 115-lb turnouts; replacement of 300,000 track feet of ties, and placement of 63,000 new ties. A total of 335,000 track feet of line will be raised and dressed.

Burlington.—Has ordered from the General Railway Signal Company equipment for installation of a coded NX wayside system between Chicago and LaVergne, Ill., 9 miles; a control machine to cover territory between Chicago and Aurora, 38 miles; automatic block signals between Galesburg, Ill., and Bushnell, 29 miles; and a traffic control system between Bushnell and Quincy, Ill., 72 miles.

Canadian National.—The following contracts have been awarded in connection with construction of the CNR's new 21-story, 1,200-room hotel at Montreal: To the Dominion Bridge Company, for manufacture, delivery and erection of some 6,500 tons of structural steel for the building's framework; and to Harold Quinlan Cut Stone, Ltd., for quarrying, cutting and delivery of 50,000 cu ft of Queenston limestone for the facing of the building. Erection of steel is scheduled to begin about December 1, this year; and delivery of stone about October 1, 1955.

Illinois Terminal.—To serve the Granite City (Ill.) harbor dock, now being built by the Bi-State Develop-

"SPECIAL"

BUILDING STONE GONDOLA FOR MONON R.R.

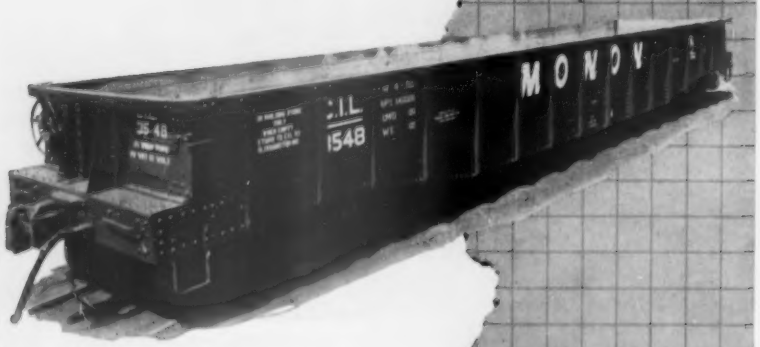
"Special" cars for industrial requirements are standard procedure here at Thrall. At the same time, "Standard" cars for inter-change service benefit from special custom shop construction at interesting prices. How can we offer an attractive proposition on both? Flexible production facilities, plus 38 years of developing them, pretty well sum it up.

Built by THRALL

Where the "Special" is Standard and The "Standard" is Special

Write for our booklet "Cost-cutting Customs on 'Customs'." It shows what Thrall can do for you on Special or Standard cars, reconditioned or leased cars.

THRALL CAR MANUFACTURING COMPANY
2602 Wallace St.,
Chicago Heights, Illinois



Full steel, fish-belly type underframe, composite gondola car. 53' 6". 140,000 lb. capacity. Inside height 30".

RAIL AD MANAGERS ANNOUNCE NEW COMPETITION

The Association of Railroad Advertising Managers has announced its fourth annual advertising competition. Its purpose is to encourage advertisers to augment individual and collective efforts of railroad advertisers in (1) "creating a better understanding on the part of the public of the importance of railroads in the transportation system of America," and (2) "encouraging development of additional rail traffic."

Advertisements appearing in any recognized media between November 1, 1953, and October 31, 1954, are eligible. The two basic categories of the competition cover (1) advertisements of an institutional nature that feature the importance of the railroad industry, and (2) those of direct assistance in promotion of rail traffic.

Proofs should be submitted between October 31 and November 15 to Alfred E. Greco, chairman, Advertising Awards Committee, ARAM, care Pullman Company, Merchandise Mart Plaza, Chicago 54. They will be judged by a committee composed of Fairfax M. Cone, president, Foote, Cone & Belding; Frank Richter, editor, Modern Railroads; Franklin M. Kreml, director, traffic institute, Northwestern University; Leo A. Brown, director, advertising and public relations, Wabash (and president of ARAM); and Mr. Greco, who is assistant to traffic vice-president of Pullman.

ment Agency, existing industrial trackage will be extended, at a cost of about $150,000.

Louisville & Nashville.—The general office building at Louisville, Ky., will be air conditioned, at an estimated cost of $415,723.

St. Louis-San Francisco.—A 1,958-ft connecting track, plus signaling and crossings, will be constructed at Ft. Worth, Tex., at an estimated cost of $157,500.

St. Louis Southwestern.—As work nears completion on installation of centralized traffic control between Dexter Junction, Mo., and Brinkley, Ark., 159 miles, preliminary work is starting on another installation between Texarkana and Mt. Pleasant, Tex. This new project covers about 60 miles of line and will cost about $700,000. The larger project has been estimated to cost about $2 million.

Southern Pacific.—The SP will close its present San Francisco city ticket office at 65 Geary street as soon as it is able to complete, about mid-September, a new phone-and-lounge type office in its general office building at 95 Market street. The company's first phone-and-lounge office, placed in service at Los Angeles in 1952, was fully described in *Railway Age*, December 15, 1952.

The system there explained puts "every customer first in line." "It has proved so satisfactory," said Claude E. Peterson, SP vice-president in charge of system passenger traffic, "that we are inaugurating it as a permanent arrangement in San Francisco."

Spokane, Portland & Seattle.—A riprap quarry is being developed alongside the main line at Berrian, Wash., in connection with the relocated line behind McNary dam. The Morrison Knudsen Company has the contract for opening the quarry. It has been estimated that to strip the overburden and to produce the first 15,000 cu yd of rock will cost approximately $50,000.

Western Pacific.—Company forces are replacing 19.92 miles of 100-lb rail with 136-lb rail between Sano, Nev., and Phil. A 2-in. ballast raise is included in the project, which is costing about $886,000.

Equipment & Supplies

Mexican Road Gets Revamp Loan

The International Bank for Reconstruction and Development (the "World Bank") has made a loan of $61 million to the Pacific Railroad of Mexico for equipment needed for an extensive rehabilitation and modernization program. The entire program is expected to cost about $80 million and will take four years to complete.

The loan of $61 million will pay for the 64 diesel-electric locomotives (33 "all-purpose" units and 31 "light-service" units); 684 freight cars; four million ties; 170,000 short tons of rail to relay about 1,000 miles of track; other track material; and communications and shop equipment.

Management Changes—In addition to the rehabilitation of its physical facilities, important changes are also being made in Pacific's administration. The composition of the board of directors has been altered to include more representatives of agriculture, industry and banking from the area served. The seat of the board has been moved from Mexico City to Guadalajara, and a general overhaul of administrative and operating practices is being carried out.

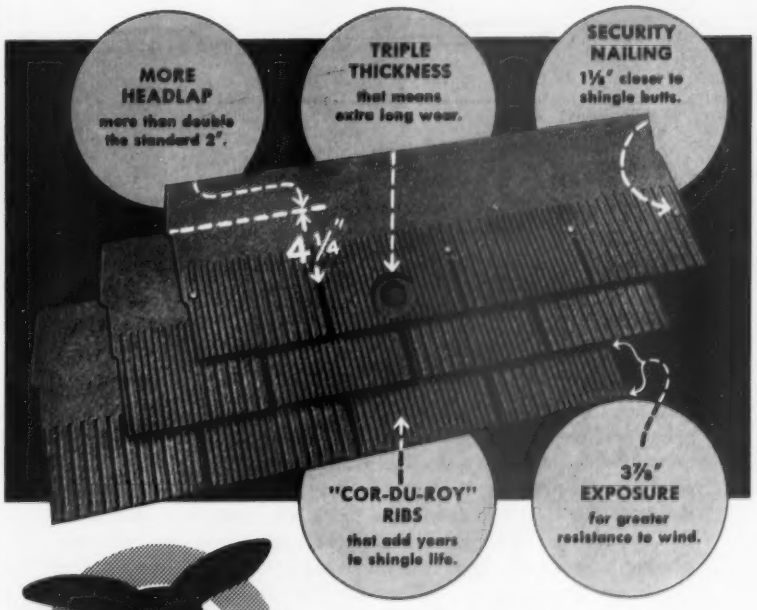
The rehabilitation program is based on a survey made by Coverdale & Colpitts, consulting engineers, of New York, and that firm has been retained to assist in the execution of the program.

The railroad, built early in this century, was owned by the Southern Pacific until 1951, when it was sold to the Mexican government. It serves the northwest coast of Mexico, running some 1,200 miles from Nogales on the Arizona-Mexico border to Guadala-

Railroad men prefer **MULE-HIDE**

town and country **SHINGLES**

for these five reasons



300-LB WEIGHT
4-UNIT DESIGN
TEN RICH COLORS

MULE-HIDE TOWN & COUNTRY ROOFS

The popularity with railroads for 30 years of MULE-HIDE Shingles is proof enough they make the best roof you can buy. But behind this popularity are sound reasons that put these famous shingles in a class apart. Compare, and you will agree nothing can beat Town & Country.

THE LEHON COMPANY *4425 South Oakley Avenue, Chicago 9, Illinois*

When cotton wicks and carbon arcs were tops in railroad lighting

In the '90's, sputtering carbon arcs cast their characteristic blue-white glare over most train sheds and station platforms. For passenger cars, these gimbol-mounted kerosene lamps were still common.

Today, sixty-five members of the Graybar sales staff specialize in railroad needs. Long experience and systematic training have qualified these men in the electrical problems that are also railroad problems.

In lighting, for instance, they'll be glad to work with you in the solution of any out-of-the-ordinary problem and furnish — without obligation — detailed installation recommendations, prices, specifications and such other data as you may require. Important, too, is the fact that Graybar distributes the most complete selection of lighting units and lamps available from a single source — you can *always* be sure of completely impartial advice. *Graybar Electric Company, Inc., Executive Offices: Graybar Building, 420 Lexington Avenue, New York 17, N. Y.*

302-209

100,000 electrical items are distributed THROUGHOUT THE NATION... via GraybaR

OFFICES AND WAREHOUSES IN OVER 100 PRINCIPAL CITIES

Equipment & Supplies

jara, where it connects with the National of Mexico's line to Mexico City.

The $61 million loan, which is guaranteed by the government of Mexico, is for a term of 15 years and bears interest of 4⅝%, including the statutory 1% commission charged by the International Bank. Two New York banks are participating in the loan, without the International Bank's guarantee, to the extent of $2,420,000. They are the Bank of the Manhattan Company and the Chemical Bank & Trust Co. Amortization of the loan will begin in June 1959.

ODM Sets Back Fast Write-Off Deadline

The Office of Defense Mobilization has set back to June 30, 1955, the deadline for starting construction of freight cars, diesel-electric locomotives and railroad terminal and road facilities which are to be qualified for accelerated amortization for tax purposes.

The previous deadline was December 31, 1954. The extension, recommended by the Defense Transport Administration, applies also to seven other expansion goals in the transportation field. These cover water, highway and airport facilities.

"The effect," ODM said, "is to give practical uniformity to the termination dates for all transportation goals, including those for railroad passenger cars and warehousing and storage already set for June 30, 1955."

FREIGHT CARS

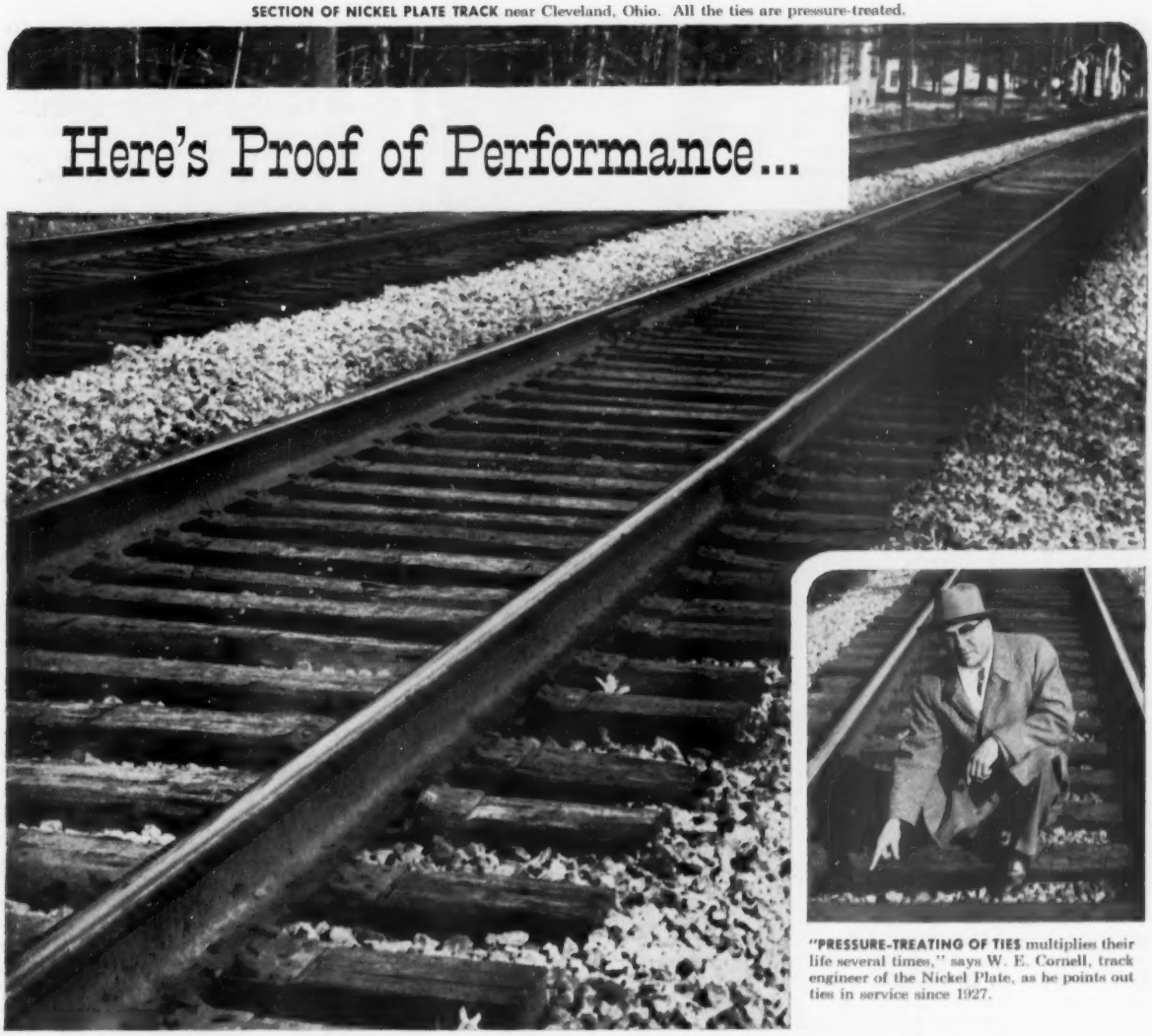
The **Fruit Growers Express Company** has authorized construction during the first quarter of 1955 of 300 50-ton refrigerator cars.

The **Western Fruit Express Company** has authorized construction during the first quarter of 1955 of 50 70-ton mechanical refrigerator cars.

PASSENGER CARS

The **Louisville & Nashville** has ordered 13 lightweight 60-passenger coaches from ACF Industries, Inc., at a cost of approximately $1.8 million. The cars, to be delivered late in the second quarter of 1955, will be assigned to the "Pan American" (Cincinnati-New Orleans), the "Humming Bird" (Chicago-New Orleans), and the "Dixie Flagler" and "South Wind" (Chicago-Miami). They will release modernized coaches now in service in those trains for use elsewhere.

SECTION OF NICKEL PLATE TRACK near Cleveland, Ohio. All the ties are pressure-treated.



"PRESSURE-TREATING OF TIES multiplies their life several times," says W. E. Cornell, track engineer of the Nickel Plate, as he points out ties in service since 1927.

Nothing but *pressure-treated* ties in 2,184 miles of Nickel Plate track

● In 1921, the New York, Chicago and St. Louis Railroad Company—best known as the Nickel Plate Road—began a program of replacing all untreated ties with pressure-creosoted material. Today, every tie in the Nickel Plate's 2,184 miles of track is pressure-treated.

Performance of pressure-treated ties has been so good that the Nickel Plate no longer maintains test sections of track. Checks on tie conditions are limited to yearly inspections, at which time each tie that needs replacement is marked for removal.

Nickel Plate's engineering department says it is getting 26 to 28 years of service from pressure-treated ties. That's 400 per cent better than the 5 to 6 year's life of untreated oak previously used.

Pressure-creosoting is the key to long, economical tie life. And for best results, specify USS Creosote, the uniform product of United States Steel's tar distilling operations. For complete information on USS Creosote, contact our nearest Coal Chemical sales office or write directly to United States Steel Corporation, 525 William Penn Place, Pittsburgh 30, Pennsylvania.

USS CREOSOTE

4-1647

UNITED STATES STEEL

Railway Officers

BURLINGTON.—**Gail F. Link,** advertising assistant at Chicago, has been advanced to advertising manager there to succeed the late **Ralph Jennings** (*Railway Age*, August 2). Mr. Link's successor is **Howard E. Jones.**

S. L. Parker has been appointed general freight agent at St. Paul, succeeding **J. A. Leary,** who retired September 1 after more than 49 years with the company. Named as assistant general freight agent at Omaha is **H. P. Marshall. R. J. Lucas,** commercial agent at Los Angeles, becomes general agent at Portland, Ore., to succeed **O. G. Hagemann,** retired.

CHESAPEAKE & OHIO.—**J. E. McLeod,** chief mechanical officer, **E. L. Morrison, Jr.,** superintendent freight transportation, and **G. C. Phillips,** superintendent passenger transportation, of the Chesapeake district, have been given systemwide jurisdiction, with headquarters at Richmond. **A. G. McIntosh,** superintendent transportation, has been appointed assistant superintendent freight transportation, with headquarters as before at Detroit. **W. G. Sechler,** assistant superintendent transportation, and **E. C. Drews,** assistant to superintendent transportation, have been named assistants to superintendent freight transportation at Detroit. **R. H. Hamilton** has been appointed assistant to superintendent freight transportation at Richmond.

C. Matt Schaefer has been named general safety and fire prevention agent—system, at Richmond, succeeding the late **George A. Robinson,** general safety agent, Chesapeake district.

J. L. Varley, assistant general auditor at Detroit, will be in charge of the disbursements accounting office there, succeeding **H. H. Sass,** auditor disbursements, who has been transferred.

W. A. McClintic, special representative—operating department, at Detroit, has been appointed assistant to general manager there.

MINNEAPOLIS & ST. LOUIS.—Merle E. Eaton, assistant to president at Minneapolis, has been elected secretary there, but not vice-president and secretary, as *Railway Age* reported July 12.

COTTON BELT.—John W. Murphy, general solicitor (above), has been named general counsel at St. Louis, while Clyde Fiddes, general attorney and commerce counsel (below), succeeds him (*Railway Age*, June 14).

DENVER & RIO GRANDE WESTERN.—Thomas R. Woodrow, general attorney at Denver, has been named general counsel there, to succeed the late **Henry McAllister.** Mr. Woodrow began his railway career in 1912 as assistant general solicitor for the Colorado & Southern. In 1918 he joined the Union Pacific as general attorney. He entered Rio Grande service as assistant general attorney in 1920 and was advanced to general attorney in 1931.

ERIE.—**L. H. Jentoft,** assistant to chief engineer maintenance of way at Cleveland, has been named engineer maintenance of way at Jersey City, N.J., succeeding **Charles K. Scott,** who has retired after 41 years of service.

George E. Lund, assistant to superintendent motive power at Cleveland, has retired after 37 years of service.

Leon J. Marion, assistant general freight agent at Detroit, will retire September 30 under the company's pension rules.

KANSAS CITY SOUTHERN.—**William Nelson,** mechanical assistant to vice-president and general manager at Kansas City, Mo., has retired.

NORFOLK SOUTHERN.—**R. L. Ford,** assistant traffic manager, has been appointed traffic manager—rates and divisions, at Norfolk, Va.

SANTA FE.—**S. Rogers** and **C. B. Kurtz** have resumed their duties as division superintendents at Winslow, Ariz., and Dodge City, Kan., respectively, while **W. A. J. Carter** has returned to the position of trainmaster at Amarillo, Tex.

SOUTHERN.—**E. Macon Tolleson,** general superintendent transportation at Charlotte, N.C., has been appointed assistant vice-president at Washington, D.C., succeeding **Robert K. McClain,** who has retired after more than 54 years of service. **Frank S. Worthington,** superintendent at Atlanta, succeeds Mr. Tolleson at Charlotte. **John A. Rust,** superintendent at Charleston, S.C., has been transferred to Columbia, S.C., succeeding **William H. Moore,** who replaces Mr. Worthington at Atlanta. **J. Ray Brosnan,** trainmaster at Atlanta, has been promoted to superintendent at Charleston, replacing Mr. Rust.

John B. Singleton, superintendent at Selma, Ala., has been named superintendent of the New Orleans & Northeastern, with jurisdiction over New Orleans Terminal Company, at Hattiesburg, Miss., succeeding **Ralph C. Wilson,** who has retired after 38 years of service. **Donald D. Strench,** trainmaster at Asheville, N.C., has been promoted to superintendent of the Mobile division at Selma.

J. S. Bloodworth, general passenger agent at Raleigh, N.C., has retired after more than 47 years of service. **C. E. Upchurch,** traveling passenger agent, has been promoted to district passenger agent, with headquarters remaining at Raleigh.

UNION PACIFIC.—**George A. Kingsley,** traveling passenger agent at Cleveland, has been appointed chief of the military and service bureau of the passenger traffic department at Omaha, succeeding the late **Frank L. Fridman.**

OBITUARY

Stanley W. Law, 70, who retired last May as signal engineer of the **Northern Pacific** at St. Paul, died there August 4.

W. F. Richardson, 84, who retired in 1944 as freight traffic manager of the **Baltimore & Ohio** at New York, died there August 27.

WEATHER CONTROL

your perishable shipments

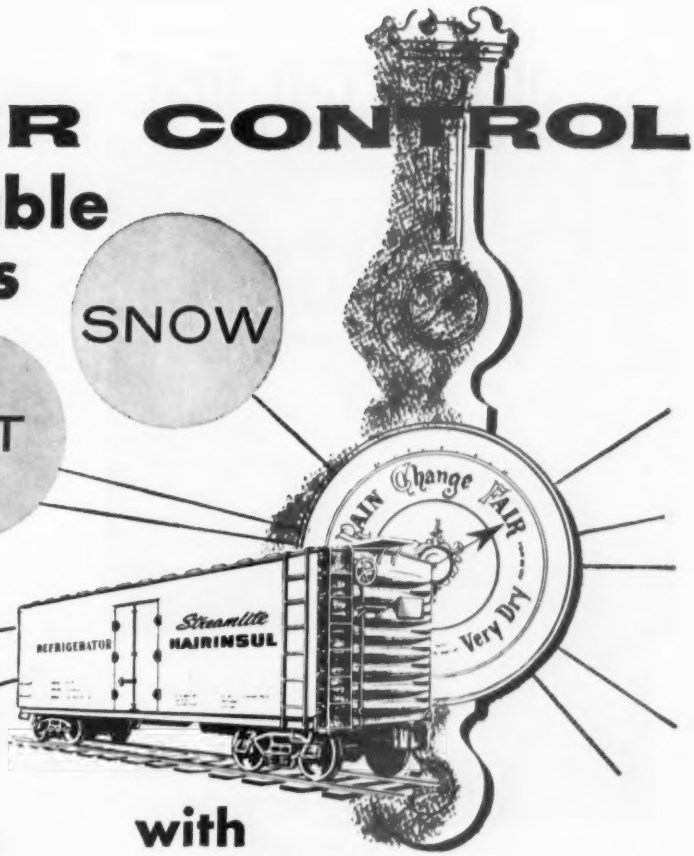
SNOW

RAIN

HOT

DRY

COLD



LOW CONDUCTIVITY... Thoroughly washed and sterilized, all-hair heat barrier. Rated conductivity —.25 btu per square foot, per hour, per degree F., per inch thick.

LIGHT WEIGHT... Advanced processing methods reduce weight of STREAMLITE HAIRINSUL by 40%.

PERMANENT... Does not disintegrate when wet, resists absorption. Will not shake down, is fire-resistant and odorless.

EASY TO INSTALL... Blankets may be applied to car wall in one piece, from sill to plate and from one side door to the other. Self-supporting in wall sections between fasteners.

COMPLETE RANGE... STREAMLITE HAIRINSUL is available ½" to 4" thick, up to 127" wide. Stitched on 5" or 10" centers between two layers of reinforced asphalt laminated paper. Other weights and facings available.

HIGH SALVAGE VALUE... The all-hair content does not deteriorate with age; therefore has high salvage value. No other type of insulation offers a comparable saving.

Write to:
Merchandise Mart
Chicago 54

with *Streamlite*

HAIRINSUL

No matter how extreme or sudden the temperature change, STREAMLITE HAIRINSUL, the dependable all-hair insulation, gives maximum weather-control protection to vital shipments of perishables under all conditions.

For nearly half a century, major car builders have specified all-hair insulation because of it's greater efficiency and economy.

WHEN WEATHER PROTECTION COUNTS...
you can count on STREAMLITE HAIRINSUL.

At left are still more reasons why leading refrigerator car builders insist on STREAMLITE HAIRINSUL. Complete data will be sent on request.

SETS THE STANDARD BY WHICH ALL OTHER REFRIGERATOR CAR INSULATIONS ARE JUDGED

Still another C-D "first"

VIBRATOR CONVERTERS NOW EQUIPPED WITH

Shock-resistant magnetic circuit-breakers

- This added feature has now been incorporated into the famous C-D dual vibrator circuit, which automatically and instantaneously switches over to emergency standby vibrator.
- The C-D vibrator converter saves 60% on cost of initial installation; saves 50% yearly on maintenance; services itself en route.
- Field-proved and accepted by over 60 leading railroads.

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Cornell-Dubilier Electric Corporation, Dept. RA-94
Indianapolis Division, 2900 Columbia Avenue,
Indianapolis, Ind. Affiliate Member A.A.R.

CONSISTENTLY DEPENDABLE
CORNELL-DUBILIER
VIBRATOR CONVERTERS WITH RAILROAD DEPENDABILITY
by the makers of world-famous C-D capacitors

PLANTS IN SO. PLAINFIELD, N. J.; NEW BEDFORD, WORCESTER & CAMBRIDGE, MASS.; PROVIDENCE & HOPE VALLEY, R. I.; INDIANAPOLIS, IND.; FUQUAY SPRINGS & SANFORD, N. C.; SUBSIDIARY: RADIART CORP., CLEVELAND, O.

Practical Information

Looking Toward

A Simplified

Solution of the "Railroad Problem" . . .

Essays on "Inherent Advantages" of Railroad Service

An attractive pamphlet containing eleven articles on the subject of how the railroads should proceed to hold and attract to themselves all the traffic which they are economically best fitted to handle.

Among the authors:

William J. Rae
Traffic Manager of Lever Brothers, Ltd., Toronto;

William K. Tate
Vice-President Traffic, NC&St.L Railway;

Professor Dudley E. Pegrum
University of California at Los Angeles;

John W. Barriger
Vice-President, Rock Island Lines;

Professor G. Lloyd Wilson
University of Pennsylvania;

—and six other able contributors.

All of these essays, except Dr. Wilson's, were singled out for distinction in the recent "Inherent Advantages" essay contest, conducted by *Railway Age*, and sponsored by President Warren W. Brown of the Monon Railway.

A 56-page booklet, 9 in. by 12 in., price $1.00
(Substantial discounts for orders in quantity)

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Are you seeking an experienced, aggressive West Coast Sales Representative? Oakland, Calif. Sales Agent offers 10 years continuous railway solicitation background (Stores & Mechanical). Address Box 737,
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FOR SALE
Immediate Delivery
200 Tons—90 lb.
ARA Section RELAYING RAIL
with Angle Bars
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ASCE Section RELAYING RAIL
with Angle Bars
100 Tons—16 lb.
RELAYING RAIL
Complete inventories of all weights Rails, Spikes, Bolts, Tie Plates and switching materials.
Write—Wire—Phone
SONKEN-GALAMBA CORP.
2nd and Riverview (X-179)
Kansas City 18, Kansas
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THE UNITED WAY

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DEFENSE BONDS

ROLLING STOCK
40 Ton Steel Sheathed Box Cars
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70 Ton All Steel Gondolas
8000 Gal. Tank Cars Cl. III
Coiled—Non Coiled
50 or 70 Ton Flat Cars 40' Long
30 Yd. Magor Drop Door Cars
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Locomotives—Car Parts—Tanks
HYMAN-MICHAELS CO.
122 S. MICHIGAN AVE.
CHICAGO 3, ILL.
San Francisco Los Angeles St. Louis New York

WANTED

Technically trained man, 26-35 years, with mechanical or electrical degree, having at least five years' railroad experience in connection with the operation and maintenance of mechanical and electrical equipment of cars and locomotives. The ability to prepare technical reports is a necessity, and the man selected will be given an opportunity which will pay him a good salary while being trained. This job requires traveling in the eastern United States with headquarters in New York City. If you are interested, tell us about yourself and your experience; your reply will be held confidential.

Address Box 736, Railway Age.
30 Church St., N. Y. 7, N. Y.

Railroad Rolling Stock
FOR SALE OR LEASE
- 40 to 70 Ton Freight Cars: Box, Gondola, Flat, Stock, Hopper and 6000 Gal. B.M.T. Glass-Lined Tank Cars
- Cabooses—new or re-conditioned

CAR PARTS NEW OR USED Guaranteed to Meet AAR and ICC Requirements

CAR REPAIRS — Prompt Service — Low Cost
Running repairs — rebuilding — reconditioning — painting.
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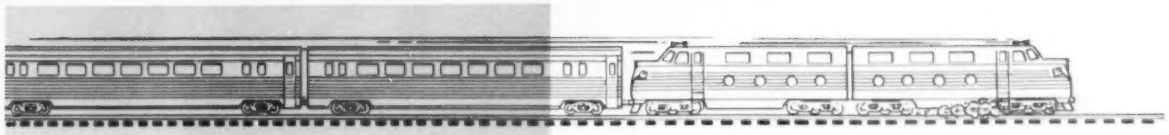

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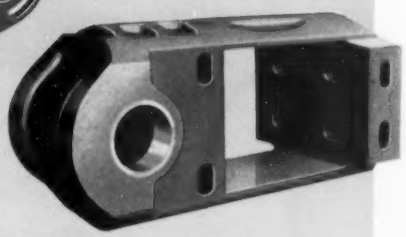

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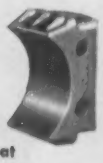

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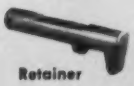

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